COMPLETE WALL-TREE PRUNER:

PRINCIPLES OF PRUNING AND TRAINING :

ALL SORTS OF

WALL FRUIT TREES, AND ESPALIERS,

In the most Improved Degree of Perfection and Fruitfulness;

SYSTEMATICALLY EXPLAINED by a New Scientific PLAN, never before attempted.

COMPREHENDING

The Completest Practical Directions for performing all the different Operations of Pruning and Training all Sorts of Wall Trees and Espaliers, in the most successful Manner, according to their different Modes of Bearing, and in their several Stages of Growth, from the earliest State of Training to their utmost Maturity, and latest Duration, whereby to have them always Prosperous, Beautiful, and abundantly Fruitful. Consisting of Common Wall Trees, Half Standard Wall Trees, High Standard Wall Trees, Espalier Trees, &c. comprehensively explaining the respective Orders of Training, different Modes of Bearing, several Sorts of Bearers, various Kinds of Branches and Shoots, Fruit Buds, Fruit Spurs, and all other Parts of the Trees in their different Ways and Habits of Growth, describing accordingly the peculiar and most effectual Methods of Pruning, both for occasional and general Practice. With full Explanations of the whole Process and true Principles of First Pruning and Training, General Pruning, Summer Pruning, and Winter Pruning.

The Whole being Systematically displayed, according to an eligible New Plan, is peculiarly calculated to render all the different Operations of Pruning easily comprehended, and successfully practised, that every one may prune his Wall Trees, &c. with the utmost Facility, and Certainty of having them in the highest State of Persection, and Bearing; the Fruit large, sair, and of superior Quality.

Also, A COMPLETE REGISTER of all the different Species and respective Varieties of the best Fruits, with their Times of ripening, &c.

By JOHN ABERCROMBIE,

(Oxford Street (319.) London.)

Author of Every Man His Own GARDENER, THE BRITISM FRUIT GARDENER, and other Works no Gardening.

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PREFACE.

WALL-TREE pruning, although well underflood and accurately executed by many intelligent and experienced practitioners; yet there being
far more numerous unexperienced pruners, who,
not having had an opportunity of obtaining proper
information, either from real practice or books, commit gross errors, and generally do great violence to the trees in performing that operation; and
therefore, notwithstanding the many books that
have been published on the general culture of fruit
trees, there was still greatly wanted a distinct work,
treating wholly on the science of wall-tree pruning,
upon a peculiar systematic plan, particularly calculated to explain the whole fundamental principles or
that art, in a regular progressive order, both for the
instruction of the unexperienced, as above; and as
an assistant to wall-tree pruners in general.

Among the various books heretofore published, on the general culture of fruit trees, the author of the present work wrote one upon a new and very improved plan, entitled the British Fruit Gardener, &c. comprehensively explaining all the different methods of propagation, raising, and planting fruit trees in general, with general directions for pruning the different sorts, as far as the nature of the work would admit, on account of its being unavoidably blended with the various other articles, relative to the propagation and planting, &c. and which work has been most favourably received in the world, act only in England, but also on the Continent; particularly in Germany, where it has been trans-

For as the science of wall-tree pruning is allowed to be both one of the most important and difficult operations of gardening, to execute with accuracy and eligible success, and consequently not less so to describe with precision in writing, requiring such particular explanations, that its true principles could not possibly be so clearly and comprehensively ishiftered, as the importance of the subject required, any other way than in a separate work, treating wholly on that matter in a systematic order, explaining separately all the nu nerous articles, occurrences, and methods of proceeding under distinct heads, according as the nature of the various circumstances required.

In consequence therefore of the above, I was induced to undertake this performance, treating entirely on the subject of wall tree pruning, proceeding regularly through all the different stages, from the earliest state of training, to the utmost maturity of growth of the trees; first giving some introductory observations on the utility and practice of pruning wall and espalier fruit trees, with remarks on erroneous pruning; then explaining the different orders of training, and various modes of bearing, according to the nature of growth of the respective trees in their different kinds, various sorts of branches, and shoots, different sorts of bearers, fruit shoots, fruit-buds, fruit-spurs, and all other occurring parts of wall and espalier fruit-trees, in their different

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habits and ways of shooting, bearing, &c. describing accordingly the peculiar and most effectual methods of pruning to be observed in each, both for occasional and general practice; together with the particular methods of first pruning, general pruning, summer pruning, and winter pruning, &c. all minutely explained under many separatelheads; as also all the numerous occurring circumstances, relative to wall-tree pruning and training in general, and all the different methods of proceeding in that business accordingly.

All which, having thus attempted to reduce into a short, but comprehensive system, from the result of above forty years practice and experience, hope it will prove acceptable to all learning pruners particularly; and to such others as may occasionally want advice, or information, either in particular cases, or in the general operations of wall-tree pruning, as they may here immediately find an explanation of every requisite article on that subject under its par-

ticular head.

The author having endeavoured, according to his plan, to convey a thorough practical knowledge of the different operations of pruning wall trees, &c. in as plain and comprehensive a manner, as possible, agreeable to real practice; he hopes the reader will excuse his humble stile, and particularly repentions, which have been inadvertently introduced, owing principally to his great eagerness to give as full and intelligible explanations as possible, under each head of the different articles.

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Complete Wall-Tree Pruner.

INTRODUCTORY OBSERVATIONS.

On the Utility and Practice of Pruning Wall and Espalier Trees, &c.

THE practice of pruning and training the different forts of wall and espalier fruit trees, in the several requisite forms of growth, may be justly considered as one of the grand and important sciences in the system of gardening; requiring singular attention and precaution to execute it successfully, agreeable to the nature of growth, and modes of bearing of the different species of trees, so as to promote and support a regular display of eligible bearing branches, and a prosperous state of fruitfulness in the utmost abundance and perfection; which are objects of the first importance in the culture of fruit trees; and the main design of pruning and training is to acquire those valuable ends.

The business of pruning being a peculiar operation of the knife, essentially necessary in a scientistic manner for the retrenching and reduction of irregular and redundant growths, in all wall and B espalier espalier trees particularly, and occasionally for standards, &c. both with design to give them the eligible formation in their early state, as well as to adjust irregularities, and maintain the requisite uniformity and fruitfulness in every stage of their advanced growth, as without this most necessary assistance methodically performed, agreeable to the nature of growth and modes of bearing of the different species, the wall and espalier trees would soon run into the most disorderly and unfruitful state, as is obvious in very many gardens where the operations have been erroneously performed.

Fruit trees almost in general being required to assume some regular form of growth, and often limited to certain spaces of but moderate extent, as in most wall and espalier trees, they consequently demand a general pruning and training, in some degree, more or less, annually, under proper precautions and regulations, in order both to preserve their respective regularity and fruitfulness, agreeable to the desired forms of growth, by retrenching all superstuous and irregular shoots, &c. and to confine the branches of particular kinds of trees within their limited bounds, as well as to promote a general supply of none but fruitful branches regularly displayed.

But the operation of pruning and training fruit trees is an art, the true principles of which have never been clearly illustrated in a general scientific manner by authors, or near so generally understood among practitioners, as the importance of the business, and the nature of the different respective species of trees require, which too evidently appears in numerous gardens, by the very wretched state of the wall, and espalier trees particularly, as well as the desicient crops of

their respective fruits, which often prove a very mortifying circumstance; when, after being at a considerable expence in erecting suitable walls, preparing the soil, and planting them with the more valuable kinds of fruit trees; and that after waiting several years with anxiety, in expectation of the trees repaying our labour with eligible crops of fruit, they, through means of false pruning, still, in a manner, remain almost as unfruitful as in their first training; and often reduced to an aukward and unprosperous state of growth, disagreeable to the sight, and rendered difficult, with any after care to be brought to assume a regular sigure, or to bear in any tolerable degree of perfection or abundance.

Thus, erroneous pruning proves the destruction of many valuable wall and espatier fruit trees, both in respect to form and bearing; this important operation being too often attempted by ignorant . practitioners, a difgrace to gardening, who, without experience or information, work without principle, hack and cut away, in a random manner, without reluctance, or diffinction, or any regard to the nature of the respective species, frequently stump off what they suppose bad wood, and make it a rule to shorten all the reserved shoots, right or wrong; often cutting away the only fruitful part of the branches, thereby retard their bearing, force out numerous superfluous, and irregular fhoots, and fill the trees with redundancy of unnecesfary and unprofitable branches, useless wood, and disagreeable stumps, and is the reason we meet with fo many ill-formed wall and espalier trees of barren growth; but to obviate these inconveniences, and render the science of successful pruning universally understood, is the intention of this performance. Our design, therefore, is to lay down a pecu-

peculiarly eligible plan, by which the true scientific practice of pruning may be more easily and clearly comprehended, and more generally practifed, with the defired fuccess, than heretofore, both with respect to the different stages of growth and orders of bearing, and with a certainty of having always handsome and durable trees, bearing in an improved degree of excellence, as may be fully depended upon, from the refult of many years universal practice and experience. And I presume, these directions will prove a sure guide to unexperienced pruners, who either practife pruning professionally, as gardeners, or those who prune their own trees for their amusement, &c. and even to numerous more experienced practitioners, who have not fully conceived the elements of pruning scientifically, or agreeable to the order of nature. with respect to the modes of bearing, and general growth of the different species of fruit trees, in the different stages of training, which are always very materially to be confulted in the various operations of pruning.

Because, as most of the different species of fruit trees assume different modes of growth and bearing, they accordingly require peculiar methods of pruning, adapted to the nature of their respective kinds; and the grand point, is to conceive this in its proper light, (as hereafter explained) in order to render the operations of pruning and training easily practicable in all the different kinds of fruit trees, conformable to their various orders of growth and fruiting, as above suggested; and by a due application of the rules and methods exhibited in this small Treatise, the pruner will not fail to find his operations and hopes abundantly answered, and his labour repaid with abundant crops

of fruit.

But wall and espalier fruit trees require confiderably more assistance from the operations of pruning and training, than common detached standards.

For example: All wall and espalier fruit trees being limited to a certain regular mode of arrangement, within an allotted space, they require a general pruning and training every summer and winter, to remove the redundant and irregular growths of each year, that exceed the bounds of regularity and due abundance.

But standard trees, having full scope for their heads to branch out widely all around, to their full extent, without limitation, they require only an occasional pruning in particular parts, according as any casual, cross-placed boughs, crowding

branches, or dead wood occur.

Wall and espalier trees being designed for the production of the choicer varieties of the different species of fruit, in the most ultimate degree of excellence, and in the earliest perfection, by having their branches thinly arranged, in a regular, fanned expansion, close along the wall and espalier, horizontally to the right and left, at equal distances; and being thus limited to a peculiar mode of arrangement, within a certain district of moderate extent, and that as they annually send forth numerous, irregular, and superabundant growths, as well as regular-placed slicoots, arising from the sides and ends of the regular-trained horizontals, in summer, they consequently require a general regulation of pruning and training every summer and in winter, to displace the irregularities and redundances, and train in the necessary supply of regular growths, as the different species of trees shall require, by the rules fully explained hereafter.

A fummer pruning and training being indifferlably necessary in all wall and espalier trees, to retrench all the fore-right, evidently ill-placed, and superabundant amual young wood of the year, close to the mother branches, before they grow into any considerable disorder; and to train in an abundant supply of the proper growths with regularity, close to the wall and espalier at full length all summer, to chuse from in the general winter

pruning.

The winter pruning and training is also equally necessary as the summer dressing, in all kinds of wall and espalier fruit trees, to cut out any superfluous and ill-placed young shoots omitted in summer, and not now wanted; felecting a fufficiency of the best, according as the different forts of trees require, agreeable to their order of bearing; as likewise to prune out casual, barren, and decayed old branches, retaining young of the former fum-mer in their place, and to reform the general arrangement, when necessary, of all the main branches, or of fuch as require new training, continuing the whole regularly expanded at equal distances, fix, eight, ten, or twelve inches afunder, as the different forts require, and as is particularly described under their respective articles; for by keeping the branches thin and regular, the fruit. will be large, fair, and well flavoured.

By properly performing the above-mentioned regulations, of pruning and training wall and espalier trees duly every summer and winter, by the improved methods, hereafter more fully directed, the trees may always be continued regular, beautiful, and fruitful to a great age; for it is incumbent on us to bestow an annual pruning and training on all wall and espalier trees, quite

from their earliest state to their ultimate advanced

growth.

In their infant state, a particular mode of pruning by cutting short most of the first and second years shoots, produced immediately from the graft and bud, being necessary, as hereafter explained, to encourage and expedite, with greater facility, a regular expansion of horizontal shoots for bearers, arifing first towards the bottom, then gradually upward, encreasing their numbers each year, till by degrees they form a general expansion of bearing branches, from the very bottom to the top of the wall and espalier, arranged fix, eight, or ten inches afunder, according as the different species of trees shall require; thereby completely covering the whole allotted space of walling and espalier with bearers, horizontally arranged, always at the above regular distances; but not in general pruned short, as in the first growth; some requiring the annual supply of shoots, moderately shortened in winter pruning, as in peaches, nectarines, and apricots, &c. that bear on the year old wood, and at the same time produce the successional supply of bearers for next year, on the same shoots along with the fruit, and others have all the branches extended, mostly always at full length, as in apples, pears, plums, and fuch other trees, which bear only upon fours arising from the fides and ends of the older wood, of from two or three to many years growth, as is fully demonstrated under the article, Modes of Bearing, &c.

Then, in the advanced growth of wall and espalier trees, trained as above, the operation of pruning and training becomes more considerable; for as the whole supply of the trained horizontals will emit a great redundancy of unnecessary lateral wood every summer, it must be constantly pruned out, the greater part early the same year, and the rest in winter, close to the branches, to support the necessary uniformity, and give sull scope to continue the arrangement of all the mother branches and bearers, at eligible distances, some less or more shortened, others at sull length, according as the case requires, respecting their order

of bearing, as before fuggested.

But respecting standard fruit trees, the pruning and training is not near so considerable as in the wall trees, &c. they however require occasional assistance of these necessary operations, in their diserent stages of growth; but being trained with full heads, branching out every way around, having unlimited scope to shoot extensively to their fulless growth, they need only an occasional pruning in

particular instances.

As for example; they, in their minor state, require to have the first shoots of a year old from the grafting and budding, &c. pruned short, to gain laterals from the lower eyes, to adorn the head with a full and regular thape in its early growth; then generally permitted to branch out freely all around, with the branches at full length, mostly according to the order of nature, except occasionally pruning any confiderable ill-growing, or rambling growths, in the early formation of the head. Afterwards, in their more advanced growth, they require pruning but feldom, and that only in particular pares, probably once in feveral years, to retrench cafual crowding branches, crofs-placed boughs, and worn-out and decayed wood, as is properly elucidated under the proper heads.

However, as in all wall and espatier trees, an annual pruning, regulation, and training, more or less, is indispensably necessary every summer and winter, variously performed, as the age, nature,

and habit of growth of the different trees require, is is here fystematically explained, in a regular process, by advancing the learning pruner gradually, according to the feveral orders of training and bearing, different flages of growth, nature of flooting, and flate of perfection of the respective trees; beginning with explaining the order of training, and modes of bearing of the different trees, with introductory hints of pruning to be observed accordingly; then explaining the operation of first pruning in the infant and espaliers, and so proceeding by degrees in the operations of general pruning, through all the different stages, till arrived to the utmost maturity, fo as to render all the operations of pruning perfectly intelligible, familiar, and easy to every pruner.

Different Orders of training Wall Trees and Espaliers, and general Rules to be observed in Pruning.

to afford all the capital species and varieties of tree fruits, by having their branches trained in a sanned expansion, in regular order, to the walls and espalies; and being so beneficial in yielding their produce, in the most improved and early state of perfection, as well as in affording infinite pleasure in the progress of their different growths, and respective crops of fruit, are obvious and consequential motives to induce every one possessed thereof, to pay the most early and constant attention to the true successful methods of pruning and training the different sorts, agreeable to the improved practice exhibited in this work; and to promote which, here follow some

general explanations and observations, relative to the order of training and requisite pruning, necessary to form the trees for walls and espalier, with the particular merit and utility of each mode of training; the proper sorts of trees, and necessary hints of pruning, preparatory to the general directions. And first of

WALL TREES.

WALL TREES are occasionally trained in two or three different orders, fuch as common dwarf wall trees, half standard wall trees, high standard wall trees, all of which being planted close against eligible garden walls, palings, or other close fences surrounding a garden, &c. at from fifteen to twenty or thirty feet distance, as the different forts require, as hereafter explained, having their branches trained to the wall, mostly horizontally, in a fanned, spreading manner, thinly, at regular distances, in order thereby to obtain every possible advantage from the full fun and free air; are by this means intended to produce their respective fruits in the most ultimate state of maturity, and in the earliest period; but designed principally for the choicer and more tender or delicate species, such as peaches, nectarines, apricots, figs, grapes, &c. all of which, in this country, do not generally attain full perfection, unless indulged with training against warm walls, and in funny exposures, the advantage of the full fun being absolutely necessary to accelerate the proper growth, and improve the flavour of all the above kinds of fruit. But it is also proper to indulge some of the more hardy fruits with the affiftance of walls, fuch as cherries, plums, pears, mulberries, currants, goofeberries, rafberries, &c. in order both to obtain

the fruit earlier, larger, and in greater perfection than on espaliers and standards, and also by having them against the walls of different exposures, obtain them from the earliest to the latest period in long succession.

COMMON WALL TREES are fuch as are formed with a short or dwarf stem, only from about fix or eight, to ten or twelve inches high, and branching out at that height, so as to cover the wall quite from the bottom to the top with branches; and are the most common wall trees for general use, formed for that purpose by being grafted or budded, &c. at the aforesaid height; and the first shoots from the graft or bud, headed down in the fpring when a year old, to a few eyes, in order to force out lateral shoots below, to form branches advancing regularly from within half a foot or a foot of the ground, arranging horizontally, at equal distances, one above another, in regular order, to the top of the wall, that every part thereof may be completely occupied with bearing wood; for no part of a good wall should be loft; especially as walls of a garden are often built at great expence, principally for wall trees.

HALF STANDARD WALL TREES.—These are so called by being trained with full stems like common standard trees, but with fanned heads, having the stems from about a yard to sour or sive feet high or more, either by being grafted in tall stocks at that height, or in lower stocks, within half a soot of the bottom, and the main leading shoot trained up to a stem of the height required, then topped with the knife at the place, where required to form the first set of branches; and being thus formed with tall stems, and ele-

vated heads, are defigned principally to plant between the common dwarf wall trees, against high walls particularly, in order to have the whole space of walling as expeditionsly occupied as possible, the dwarfs furnishing the lower, and these the upper part; but as the former advance, the half standards should have the lower branches gradually retrenched, leaving the common dwarf trees to occupy the whole wall at last, as the main standing residents, covering the wall regularly from the bottom upward with branches.

HIGH STANDARD WALL TREES are such that are trained with fix or seven feet stems, and fanned heads, for planting against the highest walls, or buildings; both for the same purposes as the half standard wall trees, and also, in order that when planted in any exposed or frequented places, the branches being elevated considerably above the reach, preserves the fruit more effectually from being gathered by those who have no right to it.

In all these orders of training wall trees, allot the peaches, nectarines, and apricots, for the best and warmest walls; south walls for the general supply; and east and westerly walls for succession crops; planting the peaches, nectarines, and apricots, not less than sisteen or sixteen feet asunder; but if eighteen or twenty feet distance, it will not be too much, especially if but lowish walls, that for want of proper height, may have full scope to extend the branches horizontally to a considerable length, without those of the different trees meeting and interfering; arranging the general branches six inches asunder, retaining a general supply of each year's regular placed young shoots

for the main bearers, trained in at full length all fummer, but shortened in winter pruning, from fix, eight, or ten, to fifteen or twenty inches or more, according to their strength, and nasted in regularly to the wall, five or fix inches afundet.

See the different Orders of Pruning.

Vines should also have the best and highest fouth walls, for unless they have the full fun, the grapes will not ripen freely, they requiring all possible benefit of the fun's influence to accelerate their perfection, as early in actumn as polfible, while the fun continues to differic an chgible degree of warmth to ripen them with pecuhar richness of flavour. Let them therefore have the most favourable funny exposition, planted twelve or fifteen feet afunder; or may plant fome. in the wide, vacant intervals between peach and nectarine trees, &c. always retaining the last fummer shoots for the mother bearers, pruning them in the winter to near a foot distance, and all of them florrened from two or three to four, five, or fix joints or eyes, and arranged to the wall either horizontally, or more or less creetly, as room admits, ten or twelve inches afunder, this diftance being necessary for vines, as they emit a plentiful fupply of theors in furnmer, and on those the fruit is produced the fame year, and must be trained in abundantly, mostly at full length in fummer at least, as far as they have room, till the end of July; then the fruit shoots may be topped, to throw more nourillment to the fruit; but in winter pruning, felecting the best placed strong thoots of the former furniter, for next year's mother bearers, at the distance above mentioned, prune out all the others, and shorten the reserved supply from three or four, to five or fix eyes, nail them regularly to the wall. See Order of

Bearing and general Pruning.

Figs likewise require a fouth wall, to have the full fun, to ripen the fruit in due perfection; planting the trees eighteen or twenty feet distance at least; they being strong and extensive shooters, require confiderable room to extend their branches horizontally, without shortening either in summer or winter pruning; for figs must never be shortened. See their mode of bearing, arranging the general branches eight or ten inches afunder, as having large leaves, and making numerous luxuriant shoots in fummer, and proper room must be allotted to train them in accordingly, chusing always a general annual supply of each year's shoots for the main bearers, and arranged at full length at regular distances as above. See their Ge-

neral Pruning.

Cherries, plums, and pears of the choicer forts, may be planted against foutherly walls, to ripen the fruit early, and with an improved flavour; but for fuccessional and later crops, east and west walls are eligible. Likewise, for later crops of cherries particularly, may also plant some against north walls; also some of the larger forts of plums, and some choice summer and autumn pears, to come in late; but the morella cherry being a large, fine cherry, and chiefly esteemed for tarts, &c. is generally allotted mostly to northerly walls; you may also plant some of the dukes, hearts, and other large kinds of cherries, in the fame expofition, in order to continue a longer fuccession later in the fummer; and if some are also planted against southerly walls, the fruit will ripen earlier, and with a greater degree of excellence, fit for the defert. But the choice eating winter pears, if mostly indulged with a fouth exposed wall, to have

have the full fun, it will much facilitate their perfection, improve their beauty of colour, and

enrich their flavour in a higher degree.

Thus in planting these three kinds against walls, let the cherries stand fifteen or sixteen feet afunder, the plums eighteen or twenty, because they are stronger shooters; and the pears generally extending the most considerably, should range twenty feet afunder at least, or if grafted on free stocks, twenty-five feet is eligible, as they will often form an expansion of thirty or forty feet, or more, if allowed room; ranging the branches of all the forts more or less horizontally, five or fix inches afunder, always at full length as far as their limited bounds will admit; for as they bear upon spurs, emitted from the sides and ends of the two, three, and many years old branches, they must not be shortened, which would both destroy the first forming fruitful parts, and force out wood shoots in the places where the fruit fpurs would otherwise have been formed, and so retard their bearing as well as their forming the proper expansions so soon, as if permitted to run and extend in length. See their Order of Bearing and general Pruning, &c.

Currants may be indulged with walls of almost all exposures, in order to obtain the fruit from the earliest to the latest period, even from June till October or November, in the greatest degree of perfection, allotting a due portion on south walls for the earliest crop in June, and a larger share on east, west, and north walls for successional and late crops; planting them, if for a full plantation, about ten or twelve feet asunder, arranging the branches somewhat horizontally, in a fanned manner, about fix inches asunder, mostly at full length, till the different trees meet, or reach the top of the wall;

because

because as they bear both on the young wood, and on small spure all along the branches it is not proper to shorten them, which would force out numerous, wheles wood shoots, and prevent the formation of fruit spure, as well as retard their

filling the allotted fpace of walling.

Gooleberries are also planted against warm walls, in moderate quantities, particularly some of the choicer, early kinds, and large varieties, to obtain early to thin off for tarts, and the rest to ripen early of a large size, and improved slavour, for eating as defert fruit; planting them ten seet distance, and the branches trained six inches assinder, without shortening, and they will form bearing spurs their whole length.

Matherries are fornetimes arranged against fouth oalls, to improve their fize, and more early ripening of the fruit, with a richer vinous flatour, being planted eighteen or twenty feet diftance, with the branches trained horizontally, fix or feven inches afunder, and hot shortened, because they commonly bear towards the upper ends of the one and two years shoots, and upon small lateral shoots and spurs, both of the former

and fame year's growth.

Apples are rarely planted against walls, though where walling is plenty, may plant a few trees of the June eating or jenneting apple, margaret apple, and golden pippin, &c. against a warm wall, to furnish a few early fruit of an improved flavour; planting them eighteen or twenty feet distance, and the branches arranged fix inches as under, always at full length, as observed for the cherries, plums, and pears; they, like those forts, produce their fruit on spurs, arising on the sides and ends of the branches, so must not be shortened. See their Modes of Bearing; &c.

As to the operation of pruning wall trees, it is fully explained in its various methods, under the different Orders of Pruning, so in this place we only exhibit some general introductory hints, as already suggested; remembering that all wall trees require a general pruning every year, in summer and winter, to retrench all the superabundant and irregular growths of each year that are not wanted, or that cannot be trained confistent with the requisite uniformity, and to train regular ones when required, as well as to prune out wornout, or other useless old branches, and dead wood: as is directed for each fort in the General Pruning and Training.

Concerning the general training, relative to the arrangement of the branches of wall trees, it is eligible that wall trees, almost in general, have the branches arranged more or less horizontally; the lower ones generally trained the most horizontal, and the others moderately in a more ascending position; but keep down the sides, to give room to bring in the middle supply, to furnish the tree

regularly upwards.

This mode of arrangement is necessary, in order both to admit of a more regular and capacious spread of bearers, in considerable extent length ways, and that they may sooner attain a fruitful state, and bear more abundantly than if trained in a more ascending or erect position, in which they soon arrive to the top of the wall, and want cutting down within bounds, which together with their erect growth, often promotes too great a luxuriancy of wood without fruitfulness; besides, apright training leaves a considerable space of walling unoccupied below, between the different trees; and in many forts of strong shooting trees, the upright branches, for the general part, are never

hever so well disposed to form eligible bearers, as horizontals; and the horizontal training, by forming a more capacious expansion of bearing branches, occupying the whole allotted space of walling in a complete manner, they thereby furnish a larger supply of fruit in proportion, than more

upright training.

It is observable for the general part, that shoots and branches naturally of a strong growth, being extended considerably in the horizontal way, without severe pruning or shortening, they, by that means, assume a moderate growth, and much sooner commence bearers than more upright growers; so that very strong shooting trees particularly, should generally be arranged more horizontally than weak or moderate growers; though in general trees that are but weakly shooters, may have the branches arranged more ascendingly, to promote strength, the upright position being very conducive to this, as the more uprightly branches are trained, they generally affect a stronger growth in proportion; but having attained due strength, train them more horizontally.

In general, wall trees of any vigorous growth, if their branches are trained too uprightly, they incline more to luxuriancy and strong wood shoots than fruit bearing; and, at any rate, soon reaching the top limits of the wall, before they effect a proper growth to form eligible bearers, require pruning down annually, to keep them within proper bounds, thereby throws them into redundant lateral wood, and retards their forming a fruitful

State.

But vines particularly, by their peculiar mode of shooting, admit both of training horizontally, and more or less upright, with almost equal success in their prosperity of growth, and general bearing; mitting of pruning shorter or longer, as occasion requires; and of training either horizontal or upright, without any manifest inconvenience in either extreme, so that they may either be arranged horizontally, along a large vacancy of walling, or only the lowest shoots of all extended quite horizontally, encouraging lateral shoots as they advance, at ten or twelve inches distance, to train as uprights; or in narrow spaces, they may be trained wholly upright or perpendicularly. See the different Orders of Pruning and Train-

ing.

However, in all other wall trees, generally arrange the branches more or less in the horizontal way, agreeable to the rules before laid down; keeping down the fides, and the middle will readily provide for itself; extending them equally to the right and left, at from five or fix to eight, ten, or twelve inches distance, as the different species of trees require, no where croffing the branches, but all ranged parallel, with the greatest regularity, preferving an exact equilibrium of branches on each fide, with the opposite branches ranging uniformly in the fame polition, all evenly extended, darting in a perfect ftraight direction; that if any are crooked, or unfavourably placed, they must be brought to order, by bending them as required by the affishance of the nails and shreds; and if any were left too close or irregular in pruning, they must be retrenched, as you proceed in nailing the branches to the wall.

The nailing of the trees to the wall, &c. is performed with short robust nails, and regular shreds of woollen cloth, or broad cloth listing,

cut into proper lengths and breadths.

There are nails made for this purpose, called

parden-wall nails, to be had at the nurleries and ironmongers, being thick and robust, with obtuse points, such as will occasionally drive into the bricks as well as in the joints between, which wery convenient for the greater regularity of ailing. In stone walls, however, the nailing can be performed only in the mortar of the joints, which in fome walls are wide and irregular, and fometimes require larger and longer nails in reportion, particularly for the larger branches; ut in wood walls or paling, the fame fort of

The lifting or cuttings of woollen cloth for breds, used in nailing up the trees, are procured at the taylors or piece-brokers; the cloth lifting sobliged to be purchased, is sold at a farthing ings or half-s-crown an hundred, and may go-perally be divided down the middle into about half ch breadths, which are of fufficient width, and re eligible than broader floreds for general hailing, except for fome of the larger mother branches, but for the fmailer thoots large threat have a clumfy appearance; that from about half en inch to an inch broad at most, and about two or three inches long, is the proper fize for general use, cut even at both ends, that they may appear regular and neat when hailed on the trees; not to have large and clumby threes about fmall thoots, nor long, daugling, or unequal ends of fireds hanging irregularly down in a flovenly manner.

In nailing the trees, begin always with the lower branches first, making those of both sides, to the right and left, extend equally in the fame position, more or less horizontally; ranging all the others accordingly at equal distances, darring, lar manner; and in nailing them, place the furedoneatly round the branches and shoots, between the eyes or buds, with both ends even, not binding the shoots therewith too tight in nailing them to the shoots therewith too tight in nailing them to the shoots therewith too tight in nailing them to the shoots, however the shreets be placed closer to gether, than there is an absolute necessity regulates in fastening the branches straight and close, in a regular manner; for it looks ill to see the trees crowded with shreets and nails, observing however to resonant crooked branches and shoots, by bending them more or less, by means of the shreets and nails, till brought straight and regular.

ESPALIER TREES.

ESPALIER TREES, Cometimes called efpalier hedges, are rows of fanned dwarf fruit trees, formed like a hedge, having low stems, like dwarf wall trees, branching out near the ground, with the branches uniformly extended to the right and left, in a flraight range, to palifadoes or trellis work of posts and railing, called an espalier; and are generally arranged in a line along the middle of the outward borders, immediately furrounding the quarters of a kitchen garden, verging the main walks, or, occasionally, in pleafure grounds, &c: forming a fort of hedge, as abovefaid, five or fix feet high, or more, making a kind of boundary between the main walks and the internal quarters of ground, and having the branches regularly trained to the espalier, in the manner of wall trees. They produce fruit in greater perfection than on standard trees; besides, andfome espatiers are not only very ornamen of cutting blafts, and impetuous winds, from the

under crops in the quarters. The salt direct will be

This order of training fruit trees is deservedly in great reputation, and is intended, [like wall trees for the tenderer and more delicate fruits] principally to improve the choicer varieties of the more hardy and common kinds, such as the finer forts of eating apples, pears, plums, and cherries; and sometimes, medlars, quinces, mulberries, filberts, currants, gooseberries, &c. Also sometimes, for variety, some of the tenderer fruits, such as almonds, apricots, sigs, and vines; all of which being planted in this method, having their branches thinly and regularly extended along the espaier, often produce fruit but little inferior to wall trees; and always larger, siner, and earlier than on common standards.

The trees for this purpose of espaliers, are always trained with low stems, grafted or budded only six or eight inches high, and the first shoots headed down at a year old to a few eyes, in order to obtain the branches advancing from within a little of the ground, in a regular expansion upwards, one above another, at equal distances from the bottom to the top of the espalier, as in wall trees, being trained horizontally six or eight inches assumed, tied with ofier twigs to the stakes and railing of the espaliers, exactly in the order of

wall trees aforefaid.

In short, espalier fruit trees being both ornamental and profitable bearers, in furnishing fruit in the greatest perfection, taking up but little room, easily managed, and not expensive, every garden ought to be furnished therewith, to produce, in conjunction with, or in lieu of wall trees, a collection of the best desert fruits of the kinds before

before mentioned; fo that gardens, whether accommodated with walls for wall trees or not, should never be without a due proportion of espaliers.

They may be planted without loss of ground round the borders of kitchen-gardens, or elsewhere, in the main outward borders, immediately bounding the principal walks, or where thought convenient, in a lituation open to the fun and free air; generally preparing borders for their reception from five to fix, eight or ten feet wide, arranging the trees in a fingle row, at four, five or fix feet from the outer edge, and not less than twenty feet distance for apples and pears; or, indeed, if you allow these kinds twenty-five or thirty feet distance, it will be an advantage, by having scope to extend their branches horizontally a confiderable length, without being shortened, or the branches of the different trees interfering; for the branches of espalier trees in general, should always be arranged confiderably more horizontal than ascending, both to admit of training a greater number of branches, and of extending them to as great a length as the limited distance admits. till those of the separate trees meet; where the above distances appear too considerable, may plant some of the small fruits between, as cherries, plums, currants, &c. to bear a few years, till the principal refident trees advance, then cut the others away by degrees.

But for small gardens, you may be provided with espalier trees of a very moderate growth, by being grafted, &c. on dwarf stocks, such as apples on the paradise, and pears on quince stocks, &c. in order, by their requiring but a small space of room, to admit of planting them only twelve or sisteen feet distance, and thereby

have an opportunity of planting a greater variety

All espalier trees require pruning and dreffing twice every year, as in wall trees, to retrench the superabundances, and irregular and bad growths of each year, and to train in regular shoots, when supplies are wanted, to preserve the requisite uniformity, as directed in the culture of

the different trees.

In espaliers, as in wall trees, great attention should be had to keep the branches in general thinly arranged, not closer than fix or seven inches, and the supershous summer wood always timely displaced, and the requisite regular shoots trained in close, straight, and at sull length, all summer, and in winter examining the whole, selecting a proper supply of the best shoots when wanted, by the rules hereafter explained, under the different Orders of Pruning, and prune out close what are not wanted, together with any bad growths, or unfruitful old wood, where there is young to supply the place; then train all the regular branches, &c. straight and close as possible to the rrellis of the espalier.

The branches of espalier trees are fastened to the espalier, by tying them with ofier twigs, or strong new bass, or rope yarn, &c. and should always be arranged horizontally, with the same

talling the second of the last the last the second

regularity as observed for wall trees.

Explanation of the Order of bearing of the different Sorts of Wall and Epalier Trees; and general Rules to be observed in pruning each Sort accordingly.

In the operations of pruning and training fruit trees, their different orders of bearing are of the utmost importance to be previously known, and duly considered, that we may be able to perform the business of pruning, &c. scientiscally, according as the different species of trees require, consistent with their modes of bearing as abovesaid. That in the several forts of trees there may be reckoned five or six different ways of bearing their respective fruits, explained under the following heads, viz.

- Bearing on the young shoots of the same

year's growth, as in the vine.

- Bearing on the young wood of one year-

old, as in peaches, nectarines, &c.

— Bearing on the two, three, and many years

wood, as in apples, pears, &c.

--- Bearing both on the young and several years wood, as in cherries, currants, &c.

- Bearing immediately from the eyes of the

young shoots, as in peaches, vines, &c.

--- Bearing upon fpurs, cursons, or stude, short thick shoots, of an inch or a little more or less long, previously formed on the sides and ends of the older branches, as in apples, pears, &c.

In the first two cases, the trees by their nature of bearing on the young wood only, immediately from the eyes thereof, without forming previous fruit spurs, require a general supply of each year's young shoots for immediate bearers; and which, for the general part, require to be mostly more or less shortened in winter pruning, to force out more cerch ons

B

tainly a supply of lateral shoots from the lowereyes, for next year's bearers, that all parts of the tree may be equally furnished with young bearing wood, as required; for if not shortened, they are apt to run up naked below, and leave the lower

parts vacant of bearers.

But in other classes of trees, bearing mostly on the older wood of several years standing, upon spurs, that after having obtained a proper spread of branches, they require only an occasional supply of young wood here and there, in casual vacancies, &c. to train up to become bearers, by forming spurs along their sides, and should generally be all trained in at full length, as shortening would cut away the first fruitful parts forming towards the extremities, and instead of fruit spurs, force out unnecessary wood shoots, and crowd the tree with useless growths.

Thus it is incumbent on every pruner to be well acquainted with all the above particulars, previous to his performing the work of pruning, &c. each of which is described below under its

respective head.

The vine bears always on the young shoots of the same year's growth, emitted from the sides of the year old wood, produced the year before, and hardly ever surnish any immediate bearers from the older branches; but the year shoots only are properly the mother bearers, they producing the young fruit shoots in spring, bearing the grapes the same year immediately from their eyes, rising first in the bosom of the leaves; and these immediate bearing shoots of the year become the mother bearers next summer, producing shoots from every eye, and on these the fruit is produced for that year; and in this manner, the succession of bearing wood is regularly continued in the vine.

Therefore,

Therefore, in pruning the vine, a general fuccession of every year's shoots must be referved in every part of the tree, both in the fummer dreffing, by leaving abundantly of the shoots of the year, to furnish the fruit of the same season, as well as for successional mother bearers; and in winter pruning, leave the most promising last fummer's shoots, to produce the ensuing year's fruit shoots; always, in fummer, retaining plenty of the fame year's shoots, that are well furnished with fruit, and others of regular growth, and prune away the irregular and fuperabundant, laying in the felect supply at full length, at least till the middle or end of July; then may be pruned to two or three joints above the fruit; but in winter pruning, must thin the shoots considerably, leaving only the best-placed and most promising growths for next year's mother bearers, at from eight or ten to twelve inches distance, and every shoot to be pruned to three, four, five, or fix eyes or joints; otherwise they would produce the bearing and fuccessional shoots mostly upward, and leave the bottom of the wall naked of bearers; making proper room in each winter pruning, to train the above annual supply of mother bearers, by cutting out some of the too long advanced, naked old wood, and part of the former year's bearers, down to some eligible lower branch or young See the general Pruning.

The peach, nectarine, apricot, and almond, affect nearly the same order of bearing. They all bear principally on the young shoots of a year old, i. e. those produced the year before; that is, in these trees, all the year old wood produces numerous shoots in summer, from half a foot to two or three feet long, and the shoots produced this year bear the crop of fruit the year following;

the middling firong shoots, being generally the most fruitful, and their nature of bearing is immediately from the eyes along the fides of the shoots, the blossom or fruit buds appearing in winter and fpring very distinguishable, by being round swelling and plump, fitting close to the wood. See Fruit They fometimes also bear and Bloffom Buds. upon small spurs, or studs, arising in the two years wood, generally more abundant in the apricot than the peach and nectarine; though you must depend principally upon the young shoots of the former year, for the main supply of fruit in these species of trees, the same shoots both producing the crop of fruit and the successional supply of shoots for next year's bearers.

As therefore in the peach, nectarine and apricot, we are to keep in mind, that the yearling shoots, arising chiefly from those produced the year before, are to be considered as the main, immediate bearers; they must be materially attended to in pruning, to retain a general supply annually, for as they both produce fruit, and a succession of bearing wood at the same time, the same individuals seldom bear again the second or any future year, except on some casual spurs, the second or third season; which also are to be preserved occasionally, as they often furnish very good fruit.

But as we before suggested, always depend upon the annual shoots for the main crop of fruit, so that a general supply of each year's regular placed shoots, must be every where retained, for each succeeding year's bearers, trained in plentifully every summer at full length; but in winter pruning, thinned out to sive or six inches distance, and each shoot generally more or less shortened, to promote their producing more effectually a supply of lateral or side shoots, from the lower lower eyes, the ensuing fummer, for next year's bearing; because if not shortened in winter pruning they are apt to run up naked, without furnishing a sufficiency of successional bearing wood, eligibly situated below, but mostly toward the upper parts, so as in time to leave the bottom of the tree naked of bearers; so that the supply of the regular placed annual wood should be thus supported equally in every part of the tree, from the very bottom to the extremities, at regular distances, making room for it by pruning out all supersuous and irregular shoots, together with part of the old bearers, and naked branches, each winter prun-

ing, See the General Pruning.

The fig bears also on the young annual wood, The shoots produced one year, bear the next, and the same wood never bears but once, but furnishes a plentiful fuccessional supply of new shoots every fummer for each following year's bearers; so that a full supply of every year's shoots must be retained in every part of the tree, generally arranged at full length, both in fummer and winter pruning; for as in this tree, the shoots bear mostly towards the upper parts of them, that, if shortened, it would cut away the main bearing parts; and as they commonly furnish a large supply of shoots naturally, in all parts of the tree, both from the young and old branches, it is not necessary to shorten them with design to gain wood. The moderately strong, robust, short-jointed shoots, are the most eligible to train in for the gene-See Year old Shoots. ral bearers.

The apple, pear, plum, and cherry, bear generally on the older wood, of from two or three to many years old, principally on fpurs or study arising at the sides and ends of the branches, being short, thick, robust shoots, half an inch, or one or two inches long, crowned with thick swelling buds,

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both fingly and in clusters; (See Fruit Spurs) and which fruit fpurs being produced along the fides of the branches, when from two or three, to four or five years old, arise first towards the extreme parts, or that which was once the extremity of the one or two years shoot, then gradually along the sides, at every eye the whole length of the branch; which in the apple begins to appear on the two or three years old branches. Pears, in those of from three to four or five years old; in plums, two or three; and cherries begin emitting fruit spurs on branches of one or two years old; and the fame individual branches and fruit spurs in all these forts, remaining prolific or fruitful many years, the trees do not require any general renewal of bearers, like trees which bear only on the young wood, but only occasionally, as any branch casually becomes unfruitful, or of a bad unprosperous growth; therefore, as the branches of these trees bear first chiefly towards the extremity, then gradually all along the fides, are not in the general operation of pruning to be shortened, but generally all retained at full length; for if proned, or reduced in length, it would not only cut away the first fruitful parts forming at the extremity, but would also force out strong lateral wood shoots at a most every eye below, instead of the fruitful fours above described, and thereby both retard. the bearing of the tree, and render it unfightly; fo that in training these trees against walls and espaliers, it is eligible to arrange the branches at full lengh, as far as the allotted space of walling and efpaliers admits, and only prune fuch as advance out of bounds, as hereafter. See Bearing Shoots.

Though the cherry in particular, bears also not only on the year old shoots, often immediately from the eyes thereof, but the same wood graduy

ally forms fruit spurs, continuing fruitful for several years: however the morella cherry particularly, generally bears the most abundantly on the young wood, and when trained as a wall tree, a supply of every year's shoots should be annually reserved in every part of the tree, three, four, or sive inches asunder, always trained in entire, without shortening or pruning their ends. See Year old Shoots.

Quinces and medlars bear also nearly in the manner of apples and pears, that is, on the sides and ends of the older branches, of from two or three to many years growth, upon small spurs, as observed also in the apple and pear; so that their branches must not generally be shortened

in pruning.

The mulberry-tree bears mostly on the younger wood, towards the upper part of it, on small fruit shoots, or a fort of spurs emitted from the fides and ends of the one and two years branches; the fruit buds rising mostly towards the extremity of the faid shoots or spurs, often on a small part of the same year's growth, issuing from the ends of the spurs, or that of the fruit shoots produced the year before, and sometimes from the sides of fuch shoots; that in pruning we must not shorten the branches, which would cut away the main fruitful parts, and force out strong, lateral wood shoots instead of fruit spurs, and retard their bearing; therefore in training them as wall and efpalier trees, arrange a supply of young shoots for bearers at full length, fix or feven inches afunder, and continued always entire, as likewise the spurs and small fruit shoots; retaining occasional supplies of regular placed, lateral young wood below, &c. advancing gradually one after another, as succession bearers, where a renewal is wanted, pruning out close the irregular placed and superabundant abundant growths, and cafual worn-out bearers,

and decayed wood. &c.

Goosberries and currants bear both on the young wood of a year old, immediately from the eyes of the shoots, and on older branches of from two or three, to feveral years growth, on finall fruit spurs or snags arising along the sides of the branches and shoots, the same branches and ipurs continuing several years in a bearing state; to that the bearers do not want a general renewal annually, or at any particular period, nor any general supply of young wood required, only occasionally, in particular parts, as any old branch assumes a worn-out or unfruitful habit, either. through age or infirmity, and in which case a proportionable supply of young shoots must be retained, and the bad, old wood cut out, leaving also in low, vacant parts, some good shoots to advance gradually to bearers, together with a leading one to each main branch; and cut out all the irregular and superabundant ones close, leaving the general branches five or fix inches afunder, and the tops but moderately shortened, or not at all, as explained below; but the branches of these shrubs may either be retained wholly intire, or more or less shortened, as the case requires; if for walls and espaliers, should generally be preserved at their full length, as far as their limited space will admit, then only shorten such as extend out of the allotted bounds; or in the common standard bushes, the branches and shoots may either be moderately pruned, or shortened at top, if required to continue the head within small bounds, or permitted to run where there is fufficient scope to fpread each way, more especially the goosberries, which should by no means be pruned short, as it would force out innumerable useless shoots in summer, and crowd the head very confiderably; for that it is more eligible to keep the branches thin, i. e. fix or eight inches asunder, and suffered to advance almost or fully at their whole length; only pruning very bending or long crooked shoots, or such as ramble much out of bounds, cutting them down in winter to any lower shoot within the limits of the general form of the head; and regulate cross-placed branches, and retrench worn-out and dead wood, retaining young below to supply the place; thus by continuing the main branches thin, and but moderately pruned, they will emit fruit spurs their whole length, and bear plenteous crops of

large well-flavoured berries.

Raspberries bear always on the young shoots of a year old, rifing immediately from the root annually, those produced one year bear the next; they emitting many small collateral shoots in fpring, and on these the fruit is produced the fame year, terminating them in clusters; at the fame time the roots fend up many young stems among the present bearers, as successional bearing wood for next year's fruit; and every year's shoots, after producing their crop of fruit, die down to the root the winter after; thus in these under-shrubs the same individual stems or bearers never furvive to bear a fecond year, but are however fucceeded abundantly by new ones annually as above, which must be permitted to extend at full length all fummer; and every winter all the old wood, the last fummer's bearers, must be broke off, or pruned down close to the ground; and the successional young stems for bearers, thinned to from three or four to five or fix of the strongest on each root, and generally pruned at top nearly down to the bending

part, or to about three or four feet long, according to their strength, leaving the strongest stems the longest; or if trained espalier ways to stakes, arrange the stems horizontally about six or eight inches asunder, and mostly at full

length.

Filbert and hazel-nut trees bear on the young and several years wood in clusters, at the sides and ends of the smaller branches, which must not generally be pruned or shortened; but these trees being mostly trained as half and full standards, or fometimes hedge-ways, to grow up in a natural order, they require but little pruning, permitting the general branches to advance mostly in their natural growth, except just to retreach any cafual rambling shoots, or very rank luxuriantones in the middle of the head, &c. though the fiberts. particularly are also occasionally arranged in espaliers; the branches for bearers trained fix or eight inches afunder, mostly at full length; keeping an occasional supply of young advancing from below. in vacancies, and fmall laterals occasionally from the more advanced branches, as fuccession bearers when necessary; and prune out all the fore-right and supersuous wood of each year, close to the mother branches, which permit to run in length and they will also emit fmall fruit shoots along their fides, and remain long fruitful, produce larger nuts earlier ripe than on flandards, and with an improved flavour.

The berberry tree bears on the young and feveral years wood, producing the bunches of berries along the fides of the branches of one, two, and feveral years growth, fo do not require pruning or shortening; and as they are commonly trained as standards, trim them up to a fingle stem, and let them branch out freely above,

en alla en francisco de **and**i La como la como de la como de c and form a full head nearly in its natural growth; only prune out or reduce luxuriant. and rambling growths and crofs-placed branches,

leaving all the others entire.

The service trees, confishing of the forb or cultivated fervice, maple leaved or wild fervice berry tree, and the azarole fervice, being all of the berry-bearing kind, produce their bunches of fruit on the fides and ends of the young and feveral years branches, and should not be pruned, but permitted to run in their natural manner, especially as they are mostly trained as standards; but if any are occasionally trained in espaliers for variety, arrange the branches fix or feven inches afunder, mostly at full length as far as they have room; and prune out the fore-right, and other irregular and superfluous shoots of each year, and casual barren branches and dead wood, and retain young advancing below, between the main branches coming forward for young bearers; where wanted; and thus managed, they will bear abundantly. But being mostly trained as common standards, or half flandards, let them be trimmed up to fingle clean stems, and let the branches of the head extend freely in length, and only give occasional prunings in their first growth to form an handsome head, by retrenching any casual irregularity, and to reform rude and rambling branches within regular bounds. art aire. gertagena bace de merent un

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The Practice of general Pruning and Training scientifically explained, in all Sorts of Wall Trees and Espaliers; with the several Sorts of Branches, Shoots, and Bearers, Fruit-spurs, Fruit-buds, Blossom-buds, and different Terms of Art, &c.

THE general directions here following, for performing the practical operations of pruning and training the different kinds of wall and espalier fruit-trees, comprise all the different methods and improvements scientifically explained, according as the nature of the different forts of trees require in their several stages and flates of growth, from the earliest period to their latest duration; as also explanations of the different parts of the trees, orders or ways of training, modes of bearing, different forts of branches, shoots, bearers, fruit-buds, fruit-spurs, blossom-buds, several terms of art, &c. all of which ought to be confidered and known by every pruner, to render him competent in performing the different operations of general pruning with eligible facility, and in true perfection, according to the directions here exhibited in systematic order, under the several following heads (see next page); and in each of which is comprehensively explained all the requisite operations of pruning and training, according as the case requires in the respective articles; and that of the different forts and state of the growth of trees; and thus by observing the methodical plan here laid down, the pruner will find it peculiarly calculated to convey a thorough fundamental knowledge of the true principles of this important art, in a superior and very improved degree.

Beginning with the method of first pruning, requisite in the formation of wall and espalier trees, we then proceed regularly through all the different stages, under the several heads, as expressed below:

Heading-down or first pruning of young wall and espalier trees. Fanning or forming the head of wall and espalier trees in a proper expansion: Mother branches. Horizontal branches. Horizontal order of training wall and espalier trees. Upright training wall and espalier trees. Regular shoots and branches. Bearing shoots branches. Irregular shoots, &c. Fore-right shoots. Lateral or collateral shoots. Side shoots. Leading or terminating shoots. Superfluous or redundant shoots. Luxuriant shoots. Fruit shoots. Succession fruit shoots.

Fruit spurs, Barren spurs. Shoots of the year. Year old shoots. Several years old wood. Wood shoots. Wood buds. Blossom or fruit buds. Rubbing off the useless buds. Pinching the fhoots. to obtain new wood. Pruning out the ufeless fhoots. Laying in the ufeful shoots of the year. Shortening the shoots. Useless shoots. Rambling shoots. Straggling shoots. Crowded fhoots branches. Cross placed branches. Luxuriant trees. Weak trees. Weak and triffing Barren and worn-out branches. Naked branches.

Gashing

Gathing or notching branches to renew old branches to renew the head. the bearers, Cutting down old Summer pruning.

General pruning. Winter pruning.

Each of the above articles being exhibited under a separate head, as before observed, they are there properly explained, together with the proper treatment in the operation of pruning and training, in the feveral species of trees alluded to in. each article. See each under its respective bead.

Heading down or first pruning, to form the beads of the young trees.

HE operation of heading down of young trees, comprehends the very first pruning requisite in the first formation of the head, and confifts of heading or pruning down the first shoots produced immediately from the grafting or budding, when a year old, to about fix or eight inches, in order to force out collateral shoots from the remaining lower buds, to form mother branches, properly fituated for furnishing the head with a full spread of bearers, expanding in regular order, from within a little of the top of the main ftem, more especially in wall and espalier trees, that they may cover the wall and espalier regularly, quite from the bottom upward, at regular diffances; as also in standards, when intended they shall sooner form a more regular spreading and full head; fo that the heading down is applicable both to wall, espalier, and standard trees. The same practice in fruit trees raised from seed, suckers, layers, cuttings, &c. is also eligible in their early state, particularly those defigned for walls and espaliers, or headed at a proportionable height for standards.

But this operation is more particularly eligible for all wall and elpalier trees, in order to obtain a full foread of branches, advancing regularly on both fides from the bottom upward, as just observed, for if the first shoots are permitted to advance without heading down, they will be apt to run up like a naked stem, without emitting laterals below, and leave all the lower part without branches, whereby a great part of the wall below, &c. remains unoccupied, which would prove a

very difagreeable circumstance.

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For as most of our capital fruit trees are propagated by grafting and budding, and the infertion of the graft and bud in the respective flocks, for common dwarf wall-trees and all efpaliers, is always within about fix, eight, or ten inches of the ground, in order to provide a proper spread of branches, advancing in a regular expansion, covering the wall and espaher equally from the very bottom to the top; but as the first shoots arising immediately from the graft and bud, if permitted to run at their natural length, would in many forts advance a confiderable length without furnishing laterals below, to give the head its first necessary form, as is proper for wall and espalier trees, and therefore the more certainly to provide a supply of lower branches, advancing regularly from the beginning; the operation of heading down the aforesaid first shoots at a year old, is indifpenfably necessary, and which should be practifed whether the trees remain in the nurfery, or are transplanted into the garden, observing as below.

But budded trees particularly, generally advancing with only one fingle shoot from the bud, which commonly is of vigorous growth, running up in length like a stem naked below, as formerly remarked, that heading down is more

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particularly necessary, which being performed in the spring, throws the sap back to the lower eyes, and they will furnish four, six, or more good shoots in summer, eligibly placed for training as mother branches, to surnish all the

others above in regular order.

Even in grafted trees, when defigned for walls and espaliers especially, that althoughtwo or more shoots may advance immediately from the graft, it is also eligible to prune each shoot to three or four eyes in the spring, to gain a proper supply of laterals, advancing regularly from the beginning, as observed above of the budded trees.

One principal rule to be observed is, that to have regular wall and espalier trees, it depends, by means of heading down the first shoots, upon having four, six, or eight regular-placed branches below, extended equally to the right and left, in a regular expansion, forming the proper basis to furnish all the other branches; for the beauty, duration, and fruitfulness of wall trees, depend entirely upon good pruning in all their stages of growth; and the great article is, to proceed in it regularly from their most early state, by pruning the first main shoot or shoots at a year old, to from four or sive to six or eight eyes, according to their strength, to provide the like number of branches, effecting the first formation of the head.

This operation therefore of heading down, or pruning the first shoots, should always be performed when the shoot is not more than one year old from the bud or graft; and the spring season in March, just when they discover the first effort for shooting, is the proper time to perform it, having a strong sharp knife; and in the budded trees, which generally running up with one strong shoot three or sour feet high,

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eut the whole head clean off sloping, within about fix or eight eyes of the bottom; or in grafted trees, having two or more shoots, cut each to four, sive, or six eyes; after this, each headed shoot will push out collaterals from all their remaining lower buds in summer, and give the head its first formation as a wall and espatier tree, &c. training these new-acquired shoots either at sull length all summer; or to gain a farther supply of branches as soon as possible, may pinch each shoot in May or June to a few eyes, and they will surnish a supply the same year. See pinching the Shoots.

But sometimes in the article of heading down, that in order to have the trees form heads as expeditiously as possible, some practise the heading or pruning the first shoots from the bud, &c. the same year they are produced, i. e. that being produced in spring, taking their growth till the beginning of June, then pinch, or prune them to a few eyes; (See pinching the Shoots) and they soon push out a lateral shoot from each eye, sufficient to give the head its first requisite form the same summer, thereby gaining

a year's growth.

Observe in either method, that during the summer's growth, to retain all the regular side shoots for training in, and if any fore-right buds push out in the front and back of the stem, &c. let them be directly retrenched by rubbing them clean off, (See rubbing off the Buds); leaving none but those emitted from the sides; and if one side pushes out considerably more than the other, pull off early the unequal buds to throw the sap more equally to both sides; and when the proper shoots have advanced in growth, train them along somewhat horizontally to the wall

and espalier; or those still remaining in the nursery, train to stakes; arranging the whole equally to the right and lest, six or eight inches asunder, and generally extended at their natural length during their summer's growth; unless, as before remarked, you are anxious to form the tree as soon as possible, when you may pinch or prune the shoots the same year in May or June down to a sew buds, to obtain a sarther supply of branches the same summer, and of which displacing fore-right buds, as before advised, and continue all the regular shoots neatly trained, as above directed, till winter

pruning.

Then in winter or spring pruning, if any irregular shoots have been omitted in summer, let them be now retrenched; and as to the regular branches, if an immediate further supply appears requisite, it is eligible to prune all the present shoots short, i. e. to eight, ten, or twelve inches, according to their strength, leaving the lowermost shoots the longest; and let the whole then be neatly trained to the wall and espalier, &c. horizontally at the distances before-mentioned, keeping them down on the fides, for the middle feldom fails to furnish itself; though if the middle shoots are but of moderate strength, they may be shortened more in proportion, and trained more upright, to promote more a vigorous growth, fo that they may make stronger shoots accordingly in due abundance for the purpose required.

Having thus winter-pruned the young trees, for the first time after the first formation of the head, and pruned most of the shoots moderately short, they will all readily emit a farther supply of lateral shoots the ensuing summer.

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fusficient to give the head a handsome shape, consisting of eight, ten, twelve, or more regular horizontals, constituting a proper basis or foundation of branches to surnish the wall and espalier uniformly all the way up, being careful to displace the aukward fore-right growths, and train in the regular shoots horizontally, clean and straight to the wall, &c. at sull length all summer, as before advised; after this the tree is to be pruned and trained according to the general order of pruning, &c. agreeable to its nature and mode of bearing; as observed under the articles, Modes of Rearing, and General Pruning, &c.

Half-standard wall trees must also be managed exactly as above, they being grafted on tall stems, three, four, or five feet high, must have the sirst shoots headed to a few inches, as advised for the common wall trees; or if grafted low, and the first main shoot trained up for a stem, the height intended, it, when arrived to the proper growth, must be topped at the height proposed, to force out laterals in that part to form the head regular, managing them as the dwarf or

common wall trees.

Likewise trees raised from suckers, layers, cuttings, or feed, should have the head pruned to the height you design it shall form branches, either as a dwarf wall, or espalier tree, or as half standard

wall trees for high walls, &c.

Common detached standard fruit trees for orchard or garden plantations, being grafted, &c., on tall stems, should also have the first shoots from the graft or bud generally headed down at a year old, as directed for the wall trees, to gain lateral branches; especially if you design they shall sooner form full, spreading, and regular heads; or if they were grafted or budded in low flocks near the ground, and the main shoot from the graft or bud run up for a stem, or raised from suckers, &c. head them off at the intended height, to

procure a regular spread of branches.

After, however, in standard trees, having by means of heading down the sirst shoots, obtained a proper set of mother branches to give the head its sirst regular form, permit all the present and after branches to remain mostly entire, except occasionally reforming any casual rambler, or cross-placed growth; or if required to have standard trees with more erect and aspiring heads, the first shoots may be permitted to remain entire, especially those proceeding from grafts, or even of budded trees, where the first main shoot does not run up very long and naked below, and they will naturally surnish lateral branches as they advance, and form a proper head, though probably not so soon, and essectually regular, as in the other method.

Training young Wall Trees, &c. in the proper fanned Order, suitable for the Wall.

FANNING the trees is the work of first training, or arranging the branches of wall and espalier trees, by extending them in a straight range, equally to the right and left in a sanned expansion, conformable to the line of the wall and espalier; always commencing it in their early growth, the first and second year after heading down; by sirst pruning out fore-right and cross-placed shoots, and then arrange the most regular ones equally to both sides, extended horizontally close to the wall or espalier,

or to stakes, &c. in the nursery, regularly about fix or eight inches afunder, one above another, no where croffing the branches, but all ranged in parallel order; and according as a farther fupply of regular branches are obtained upward, continue arranging them in the same regular manner, till they form a complete expansion, covering the whole alloted space of walling, &c. as observed in the article of Heading-down, and

in the General Pruning, &c.

Sometimes also fruit trees planted as dwarf standards, are occasionally trained in a somewhat fanned manner, without being arranged either to a wall or espalier, not however with equal regularity or utility; and is more particularly practicable in some of the more dwarfish trees or shrub kinds, when arranged along narrow borders, or to divide wide breaks of kitchen garden ground, &c. that by fanning the branches, they take up less room, without incumbering the adjacent crops; and the branches being kept thin, ranging espalier ways, admitting the benefit of the fun and free air more abundantly than in full heads, will consequently improve the fruit.

This method, however, may be more commonly practifed to goosberries and currants, training them in the fanned way from the beginning, by cutting out the fore-right and cross-placed projecting shoots, retaining such only as extend sideways, ranging the way of the row, pruning them fix or eight inches afunder, and they will thus not over-spread the ground; and being kept thin of branches, having the same advantages as espalier trees, they will produce large and finely-fla-

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Of the Mother Branches in Wall and Espalier Trees, &c.

N wall and espalier trees, and in short all kinds of standards, we denominate those mother branches which extend immediately from the bottom, or beginning of the head, and which produce all the others; but which, however, may also comprehend all such branches as furnish the general fupply of fruit shoots in peaches, nectarines, and all other trees bearing on the young wood; as also all those from which the fruit spurs, and all other bearing wood, originates or derives their immediate support; and likewise from which all supplies of young shoots in general arise; and that in wall and espalier trees particularly, the general mother branches should range from about five, fix, or eight, to ten, or twelve inches diftance, according to the forts. of trees, and their ways of bearing.

Trees, in proportion to the fize of their general shoots, leaves, and fruit, should have their mother branches ranged more or less distant; this fhould generally be attended to in the common course of training; for instance, peaches, nectarines, apricots, cherries, plums, &c. may have the mother branches and bearers range from about fix to feven or eight inches afunder; apples and pears of the middling fize, nearly the same distance; but the stronger shooting kinds, with large leaves and fruit, should generally range seven or eight inches at least afunder; but figs having mostly very large shoots and luxuriant broad leaves, as well as run abundantly to wood, should have the main branches trained eight or ten inches distance; vines, as being extensive and numerous shooters, require the mother branchos

branches trained ten or twelve inches afunder, or if fifteen or eighteen the better, to admit a good scope to lay in the fruit shoots in summer

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Though the small-fruited varieties of the respective forts of fruit trees, may have the branches trained closer than the larger kinds; for example, nutmeg peaches, and masculine apricots, the fmaller kind of plums, &c. may have the general branches ranged only about five, or fix inches afunder; and for the general part cherries, currants, and goofberries, may be extended at the fame distances; so that in the first training of wall and espalier trees, the whole success depends in providing, by proper pruning, an eligible spread of principal mother branches at first setting off, arranging horizontally to the right and left, proceeding regularly from within a little of the head of the stem, at regular distances, one above another, forming a basis or proper foundation to furnish all the others regularly upward; which is effected by pruning down the first and second year's shoots to a few eyes, to gain collaterals below, to train in for the first mother branches, at the proper distances; some of which being also occasionally pruned down to furnish a farther supply, and so of others in the fucceeding year's, production, as occasion may require, till the head of the tree is gradually furnished, as is directed under the article, Heading down, and first Training, &c.

As the mother branches of wall and espalier trees will annually throw out numerous lateral shoots in summer, all the most irregular of which, such as fore-right growers, and very rank ones, should be displaced, and a supply of the regular side ones reserved till winter

pruning

pruning, the quantity in proportion to the nature of bearing of the respective trees, and as accidental vacancies require, with a leading one to each mother branch, pruning out all the irregular and too abundant growths close to the mother wood, and train in the regular supply till the winter, when a general regulation of pruning and training commences among both old and young branches. See General Pruning, and Summer and Winter Pruning.

For as the mother branches and bearers will, fome or other of them, casually fail, become ill bearers, or decay, they must be accordingly renewed by retaining new shoots, and the bad cut out, making always a proper reserve in summer of young regular shoots, to supply the

occasion in winter pruning.

Though in all the trees which bear on the young wood, and want a supply of new bearing shoots annually, a great deal of the old mother wood will require to be cut out each winter pruning, to make room to train the ne-

ceffary supply of young bearers.

But in most of the spur-bearing trees, that continue bearing on the same branches of long standing, not wanting a renewal of bearers but only now and then, as any chance branch wears out and declines bearing, the same mother branches are continued for many years, not having occasion to cut out some every winter, as in the trees bearing principally on the young wood, which require part of the old cut away annually, in proportion to the supply of young shoots necessary to be trained for the succeding year's bearers.

Of Horizontally-training the Branches.

T Orizontally-training the shoots and branches; is the principal general method of training to be observed in the culture of all wall and espalier trees, and confifts of laying in or arranging the bearers, &c. in an inclined position, or being brought down more or less horizontally, and extended close along the wall and espalier in that direction; and those thus trained are denominated horizontal branches, and often only simply horizontals; fo called, by being arranged confiderably inclined towards a level or flat position, ranging fometimes nearly parallel to the horizon, or with the extremities rifing but a few inches higher than the bottom part of the branch; the lower branches generally ranged the most horizontal, the others in proportion.

This mode of arrangement is necessary for all wall and espalier trees, both to give them a more regular form, and to have an opportunity of making the most of every part of the wall and espalier, quite from the bottom upward, and to admit of trainning a more considerable spread of bearers, in the most eligible manner, as well as of extending them more considerably in length than if trained more upright; because if the branches of wall and espalier trees are trained too uprightly, they soon reach the top of the wall, &c. and require pruning down before they have attained a proper growth, as we have formerly observed; and for want of the horizontal expansion, great part of the wall below, and on each side of the tree, would remain unoccupied with branches.

But in the horizontal arrangement, many more branches may be eligibly trained, and extended many feet more in length, till those of

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the different trees meet, and thereby attain a more fruitful growth, form handfomer trees, covering the whole allotted expansion of walling and espalier, and produce a more abundant crop of fruit in the best perfection; besides, by training horizontally, in strong growing trees particularly, promotes a more moderate growth, than in upright branches, and sooner become fruitful, (See Wall Trees) and therefore, luxuriant trees may be trained more horizontally than moderate growers, in order to check their too vigorous growth, and render them sooner eligible bearers.

However, in general, all wall and espalier trees, in every state of growth, should have the shoots and branches that are designed for the main bearers, always trained more or less horizontally, extending the lower branches first, the others ranged in the same order, one above another, from sive or six, to eight, ten, or twelve inches distance, as the different trees require.

Upright Training of Wall Trees, &c.

I PRIGHT training of wall trees, &c. having the branches trained nearly upright, or almost or quite perpendicular, is occasionally practised in particular circumstances, such as sometimes in default of due scope to extend them sideways in the horizontal or inclined order; or against very high walls that admit of extending the branches more considerably upward than horizontally, or occasionally to promote a more free and stronger growth in particular trees, that are rather of a feeble state, or to some particular middle shoots, when required to assume a more vigorous growth, to surnish a supply of wood more effectually to fill a vacancy.

But upright training is not eligible for general practice; for trees of a free growth thus trained, commonly assuming a more vigorous or luxuriant state, running more considerably to wood, are longer before they commence good bearers than horizontally-trained trees, especially in luxuriant shooters, which should never be trained upright where it can be possibly avoided.

Besides, upright training for common wall and espalier trees, is attended also with other disadvantages, for when the branches are arranged confiderably towards the upright, we not only lose the opportunity of occupying the lower part of the wall, &c. but cannot train near fo many bearers as when trained horizontally, that by this erect position soon arrive at the top of the wall and espalier, and want cutting down annually within bounds, to the great detriment of most forts, in retarding their bearing, and occafioning a redundancy of useless wood; so that upright training is only to be practifed occafionally, in particular circumstances, as aforefaid, and in which it may prove eligible to anfwer peculiar purpofes.

For example; in the first training of wall and espalier trees, if they assume but an infirm state, producing seeble shoots, or but thinly surnished with proper wood, then to promote a freer and stronger growth, may train the shoots in a more upright position, which will more effectually encourage their strength and free shooting; or sometimes, in young trees under training, the shoots towards both sides of the tree being laid inclining; the middle ones may be trained upright, in which position the sap slows with more abundance, and they will surnish stronger and a more plenteous supply of shoots

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in proportion. The same holds good in fullystrained trees, where wood is wanted to supply wacant spaces, and that the shoots intended for producing the supply of wood, are rather of a seeble nature, or but of very moderate growth, that if trained uprightly, they will be apt to shoot more readily, and produce stronger shoots; but in luxuriant trees, or those of middling strong growth, if the shoots or branches are trained too uprightly, they are apt to run more strongly to wood, without soon forming proper

bearers, as when trained more inclined.

Some trees however, as vines particularly, admit of upright training fuccessfully, without any inconvenience in regard to their growth or bearing, so may be commodiously confined to a narrow compass, if required, by training their branches quite upright or perpendicular; however, any other fruit trees that are limited within a small space of walling, not sufficient to admit of extending the branches horizontally, but is of some confiderable height to allow of running the bearers confiderably without fevere shortening, they may with propriety be trained more or less toward the upright, as occasion shall require, and they will also form eligible bearers, though probably not in general fo foon, in vigorous trees particularly, as in the horizontal way. On the other hand, upright training against low walls, where the branches soon reach the top, they require frequent shortening, to confine them within the proper limits above, as before noticed, and thereby greatly retard their bearing; more especially all the spur-bearing trees, fuch as apples, pears, plums, cherries, &c.

But in considerable high walls, such as against the ends of buildings, wall trees are often trained

upright

apright with good success, by having large scope above to extend the branches, without considerable shortening; or not at all in the spurbearing trees, such as apples, pears, &c. which require to have their branches trained mostly entire, as explained in the article Modes of Bearing.

Bearing Branches or Bearers.

BEARING branches are of several classes, comprehending both such young shoots, that are newly trained or retained to form fruit bearers, and such also which are arrived to a bearing state, consisting of these different sorts; bearers of the same year's growth, one year old bearers, two, three, and many years old bearers, &c. according to the different modes of bearing of the respective kinds of trees; and the great art in wall and espalier-tree pruning, is, to keep every part well silled with bearing wood, conformable to their several ways of bearing. See Modes of Bearing.

That for the general, mother bearers in wall and espalier trees, &c. always retain the best regular placed, and most promising side-shoots of the year, or a year old, to train for that purpose, felecting principally the middling strong growths, not the very luxuriant, nor the too slender feeble shoots, or little twigs; observing, for this purpose, in summer-pruning always to retain a full fupply of the most eligible shoots of the year, pruning out all the irregular, and evidently superfluous growths, and lay in abundance of the proper shoots at their natural length to have plenty to chuse from, in the general winter pruning, when you should select for bearers a proper supply of the best shoots of the prece-D. 3

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ding summer's training, and cut out the rest close to the mother wood, retaining the eligible shoots, about from five to fix or eight inches or more asunder, according to the different sorts of trees, and either shorten them more or less; as in most of the trees that bear on the young wood of the year, or a year old, such as vines, peaches, nectarines, apricots, &c. or retained mostly at their full length; as in all the spur-bearing trees, as apples, pears, plums, cherries, and the like; as exhibited under the articles, Modes of

Bearing, General Pruning, &c.

Of bearers there may be reckoned three or four different classes, as we above remarked, agreeable to the order of bearing of the different species of trees, as already hinted; some bearing on the young shoots of the same year, as vines; others on the year old shoots, as in peaches, &c. fome on the many years old branches, fuch as apples, and other fpurbranches, bearing kinds; and fome forts bear both on the year old wood, and that of two, three, or several years standing, as in cherries, currants, goofberries, &c. and therefore proceed to confider the different forts of bearers, under the following heads, viz. Same Year's Bearers, One Year-old Bearers, Many Years Bearers, One and Several Years Bearers.

1. Same Year's Bearers.

S AME year's bearers, such as vines in particular, always bear the fruit immediately on the young shoots of the same year, arising from the sides of those produced the year before, and on no others; so that a general supply of every every year's shoots must always be retained; a larger supply in summer for the immediate bearers of the same year, and which remaining till winter pruning, must then select a successional supply of the best of them, as mother bearers, to furnish the next summer's bearing shoots, and cut out the superabundancy, retaining the fuccessional mother bearers in winter pruning, about from eight or ten, to twelve or fifteen inches afunder, to admit of full scope to lay in a due abundance of the following fummer's immediate bearers, with regularity between them; and each of the winter retained shoots to be pruned to from three or four, to five or fix buds or joints, and then nailed up regularly at the above mentioned distances.

Likewise mulberries often bear both on a fmall part of the same year's wood, and on that of the one and two years growth, mostly from the ends of small spurs, arising towards the upper parts, and extremities of the one and two years old branches, therefore must not be shortened; and that when trained, as wall and espalier trees, a portion of each year's shoots should be retained for bearers, and trained always at full length; as also reserve the already trained branches, that are furnished with fide fruit spurs, continuing the whole always entire, having young shoots advancing below, one behind another, between the mother branches, to succeed barren branches, or such that become naked of bearing wood.

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2. One-Year old Bearing Shoots.

NE-YEAR old bearing shoots, are such as prevail in peaches, nectarines, almonds, apricots, and figs, for those trees bear their fruit mostly on the one-year old shoots; those produced this year bear the next, emitting the blossom or fruit buds immediately from the eyes all along the fides of the bearers, but the most abundantly towards the upper parts of the shoots, and the same shoots seldom bear a fecond year, except on some casual spurs in the peach, nectarine, and apricot particularly; fo that a full supply of every summer's shoots must be retained for bearers, to produce the following year's fruit, laid in at full length all summer, and thinned in winter-pruning, where too abundant, retaining the most fruitful in blossom buds, and let them generally be more or less shortened, except the figs, pruning the others to from fix or eight inches, to a foot or half a yard or two feet long, according to their strength, then train them horizontally five or fix inches distance. See General Pruning.

But the fig bearing the fruit buds mostly nearthe top of the shoots, must not be shortened, but

trained always at full length.

Raspberries likewise bear on the year-old shoots, and never on any older wood, several stems rising from the bottom every summer, and bear the fruit next year, then totally decay down to the root in winter; a fresh successional supply having previously risen from the old root the preceding summer, for the ensuing year's bearers; which in winter, after cutting out all the dead stems, which were the last summer's bearers, should be thinned to from three or four, to five or six of the strongest on each stool, and each shortened at top.

Currants.

Currants, goosberries, and some forts of cherries, likewise bear on the year old wood, but more abundantly on that of two, three, or several years old. See One and many Years Bearers.

3. Many Years bearing Branches.

MANY years bearing branches, are those of the apple, pear, plum, cherry, quince, and medlar, bearing on the two, three, and many years old branches, principally upon natural fpurs, cursons, or studs, very short thick shoots from half an inch to one or two inches long (See fruit spurs) being emitted from the fides and ends of the mother bearers, when from two or three to four or five years old, and on the ends of these spurs the blossom buds and fruit are produced, the same branches and spurs continue bearing many years; observing in these forts, always to arrange the bearers at full length fix inches afunder horizontally, as in other wall and espalier trees, and not shortened either in summer or winter pruning; neither in the wall, espalier, or standard trees, which would retard their bearing, and force out only wood branches instead of fruit spurs.

Thus in training these trees, observing to arrange a due supply of the regular-placed middling strong yearling shoots for bearers, six inches asunder, always at full length, cutting out the superfluous and ill-placed growths of each year, they will surnish bearing spurs; the apple in two or three years, the pear in three, sour, or sive, plums in two or three, cherries in two; and the quince and medlar at one and two years old; and that being always extended entire without short-

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ening, as far as their proper bounds will allow, they will furnish fruit-spurs their whole length; and as the fame branches continue many years in bearing, they do not want a general renewal of young shoots for bearers, as in trees that bear principally only on the young wood, as explained in the first class of bearers; for after having obtained their full spread of branches, they only want a supply of new wood occasionally in particular parts of the tree, according as any old bearers casually fail, either by being ill furnished with fruit-spurs and scanty bearers; or producing ill-nourished fruit, when some contiguous, well-placed young shoots may be trained up between the main branches, to form bearers, to supply the places of such old unfruitful growths, cutting out all the unnecessary and illplaced young wood, early in the fummer, leaving only a fingle leader to each of the main branches, where room to extend them, and here and there fome of the best well-placed side shoots below, till winter pruning, in case of vacancies; then if not wanted, cut all the lateral shoots close to their origin, and at the fame time prune away any bad or unfruitful old branch, as above, down to the best young production, commodiously situated to supply its place.

Though, as some kinds of cherries often bear abundantly on the young year old shoots, the blof-som-buds rising immediately from the eyes of them, without any previous spurs; more particularly the morella, and early May cherry, which generally bear the most plentifully on the yearling shoots, and do not form fruit-spurs so abundantly and durable as the other forts of cherries, it is proper in these two kinds particularly, to retain a general succession of every year's well-placed shoots in all parts of the tree, for the main bearers,

the enfuing summer, trained in plentifully in the summer dressing; and in winter pruning, cut out the superabundances, leaving the others four or sive inches asunder, and univerfally at full length, cutting away part of the former bearers to make room to extend the young supply straight and regular to the wall

and espalier.

But in most of the other kinds of cherries, and all forts of apples, pears, plums, &c. as aforesaid, should depend principally on the several years branches as the main bearers, for furnishing a full supply of fruit-spurs for the general crop of fruit; but according as any of these bearers casually become of a bad growth, or unfruitful state, or produce insignificant fruit, have young shoots trained below advancing to a state of bearing, to be ready to supply their place.

4. One and many Years old Bearers.

Some forts of fruit trees form bearing branches, both on the wood of the fame year, and of feveral years standing, viz. apricots, peaches, almonds, and nectarines, bearing principally on the young wood of a year old; they also often form fruit-spurs on the two or three years branches, but more plenteously in the apricot; and in all the forts the spurs furnish as sine fruit as the young shoots, and should be occasionally retained for bearing.

Likewise cherries of several sorts bear both on the year old shoots, and upon spurs on the two, three, and several years branches; but in most sorts, the principal bearers are the several years branches, i. e. of from two or three to several years standing, which should never be shortened, except when it extends beyond the proper bounds: and being furnished with shorts fruit-spurs all along their sides, the spurs having clusters of buds that produce the blossom and fruit; though the morella cherry particularly, as before suggested, bears the most abundantly on the year-old wood, the blossom buds rising immediately from the eyes of the shoots, and sometimes also on straggling spurs, but should always retain a general supply of the yearling shoots for the principal bearers, laid in at sull

length.

Also goosberries and currants form bearers, both in the one year's wood, immediately from the eyes, and on small spurs issuing from the two, three, and many years branches; fo that when trained as wall trees or espaliers, should arrange the bearers fomewhat horizontally, five or fix inches afunder, and always at full length, as far as the limits of the wall and efpalier admits, the fame bearers continuing fruitful many years, observing to prune out all irregular, fore-right, and superfluous shoots of each year, close to the mother branches, which retain always close and regular to the wall, at the above distances, and renew casual bad bearers, as they occur, with young wood, trained as above directed; but trained as standard bushes, and if required to confine them to moderate heads, may shorten the leading shoots moderately, preferving the general bearers fix or eight inches distance, and cut out close the irregular and superfluous shoots of each year; though if there is full scope for them to grow, it is more eligible to shorten them but moderately, more particularly the goofberries, or if not shortened at all the better, except reducing occafional ramblers, or low, or irregular straggling

growths, for too much shortening makes them throw out thickets of useless wood, rendering the fruit small and not well-slavoured. See their General Pruning.

Observations on the foregoing different Classes of Bearing Branches.

HUS with regard to the foregoing different classes of bearing wood, carefully observe in all the operations of pruning and training wall and espalier fruit trees of every denomination, that in occasionally felecting the proper supply of young wood for bearers, we should always choose the best well-placed main shoots of the year, or of a year old, and generally the moderately strong, somewhat robust growths of middling lengths, in proportion to the nature of growth of the respective trees, having the eyes or buds moderately close; generally rejecting for bearers fingularly luxuriant or rank shoots, and such as are deformed; as likewise all weak and feeble growths, and very long and flender shoots, with uncommonly long joints, and the buds standing very remote, together with all little twigs, pruning out likewise all those in particular that are emitted from the fides of the main shoots of the same year, unless where fuch main shoots have been previously shortened early in fummer, to gain a supply of laterals to furnish a vacancy, then the best of those must be retained; and, of the principal shoots, carefully felecting the middle-fized, or moderately ftrong and well-placed, as above, for the general bearers, cut out close all the bad and superfluous; though retain plenty of regular wood in fummer dreffing to chuse from in the general winter pruning, as before observed, and let the whole be arranged to the wall at full length

all fummer long; for if the shoots designed as bearers are shortened in their summer's growth, it forces out wood shoots from every eye, and greatly retards their forming either bloffom-buds or fruit fpurs; that being arranged plenteously and at full length all fummer, till winter, then prune out the most irregular and superfluous, and in trees where shortening is practifed, as in vines, peaches, &c. which bear on the young wood, let them then be shortened according to the rules explained in their modes of bearing and general pruning, &c. and the others that bear upon spurs, on the

old wood, train in at full length.

But as fruit trees will sometimes shoot unfavourably, either inclining to a luxuriant nature. shooting too vigorously, or of a weakly growth, making infirm shoots, we must in such cases seleft the best shoots accordingly for bearers; the very vigorous shoots seldom form good bearers foon, and the weak shoots rarely form profperous bearers at all; fo that in the general pruning, should retain the more moderate shoots of the luxuriants, and trained in thicker, and pretty much horizontally; and chuse the strongest ones of the weakly trees, these kept thin and trained more uprightly, till they have acquired a stronger growth.

When, however, a tree is univerfally luxuriant, the shoots trained for bearers are apt to run much to wood if not managed accordingly; therefore in luxuriant trees, the requifite fupply of shoots for the general bearers should always be arranged thicker than the usual practice, for a year or two, and either but very moderately shortened, or not at all, agreeable to their order of bearing of the respective trees; as thus by laying in a greater number and extent of wood in these luxuriant growths, the redundant sap will be more divided and exhausted, than in a smaller quantity of wood, thereby check the luxuriancy, and gradually reduce the tree to a moderate growth, furnishing middling strong shoots, which will sooner commence prosperous bearers, than vigorous growers.

Regular-placed Shoots

R EGULAR-PLACED shoots, comprehend principally such side shoots in wall and espalier trees, &c. that rise immediately from the upper and under fides of the horizontals; or regular trained mother branches, and not from the front and back thereof, in a fore-right, or projecting direction; but being so eligibly placed on both fides, to the right and left, that they can with facility be regularly extended close along the wall and espalier, and are oppofed to those of a fore-right production, which cannot be laid in without violence and irregularity, and which coming under the denomination of irregular shoots, should generally be retrenched, and only the fide shoots retained for regular training. See fide Shoots, lateral Shoots. &c.

Thus observing, that under the term regular shoots for general training, either for the general formation of the tree, or for occasional supply of bearers, &c. the above-mentioned side shoots are principally to be chosen, and of which should always be careful to select the best placed, and most eligible grown, pruning out the worst and superabundancy, if any; as also all fore-rights, or such shoots that are emitted immediately from the front and back of the branches, in a fore-right direction, as aforesaid; for as these come mostly under the denomination of irregular shoots,

shoots, should generally be pruned out close, unless there is no other resource, (See irregular: shoots) and the reserved supply of regular-placed shoots may be either more or less pruned, or shortened, or retained at full length, according to their nature of bearing, or the particular stage of growth, in respect to the tree being either in a state of training, or fully trained, &c. See laying in the Shoots, shortening the Shoots.

Where however the regular-placed shoots are too numerous, or more than what are wanted for training, or than can be trained with due regularity, they then come under the denomination of superfluous wood, and the superabundancy should be accordingly retrenched, pruning away close to the mother branches.

See fuperfluous Shoots; and as below.

But the fuccessional supply of regular shoots. are required in confiderably more abundance in some classes of trees than in others, exemplified in all trees bearing chiefly on the young year-old wood, as in peaches, nectarines, apricots, figs, and vines; in all of which a general fuccession of the most regular-placed shoots. are requifite in all parts of the trees every year, in the fummer and winter pruning and training, as fuccessional bearers the ensuing summer; though generally leave only two or three of the best on each bearer or horizontal, in proportion to the room you have for laying them in. to chuse from in winter pruning; chusing principally one or two of the best-placed lower growths on each mother branch, and always one at the end, which will draw nourishment to the fruit; and in winter pruning, probably, one of these shoots on each bearer will be sufficient, pruning out all the rest; but, on the other hand, fuch trees which bear mostly on spurs formed on.

on the older branches, and the same bearers continue fruitful many years, as in apples, pears, plums, cherries, &c. they after having once their full spread of bearers, only want an occasional supply of young regular wood, and that perhaps only here and there a good well-placed shoot, trained in at summer to remain till-winter pruning, when probably not one half of them may be wanted; but it is best to leave enough to chuse from, in case of an unforeseen vacancy happening, and what are not then

wanted are easily cut out.

In general, however, in all forts of wall and espalier trees, it is advisable that the main supply of regular-placed shoots retained every summer, remain at full length all that feafon, for if then shortened, it would force out many lateral wood shoots from the lower eyes the same fummer, proving useless in themselves, and hurtful to the eyes of the mother shoot, by retarding their forming for bearing; let the whole therefore be trained in always entire during their fummer's growth, straight and regular to the wall and espalier, which being performed early, and continued occasionally as they advance in. length all fummer, preserves the requisite regularity and beauty of the trees, and promotes the free growth of the fruit; and thus to remain until winter pruning, when thin out the superabundances, and let those of such trees as require shortening be then shortened, and those usually trained in at full length be accordingly. laid in entire. See Shortening the Shoots, and laying in the Shoots, &c.

But in cases of vacancy, may however occafionally practise shortening particular shoots in any fort of fruit trees, both in summer and winter pruning, either by pinching or pruning them the same summer they are produced, or in winter or spring pruning; that is, if in vacant parts, where only one or two strong shoots are produced, and several are wanted, either for the sirst formation of the tree, or in casual vacancies in sull trained trees, may either early in summer pinch the shoots of the year to a few eyes, or prune the year old shoots in winter or spring pruning to the same length, and thereby several laterals will be obtained from the remaining lower eyes. See Pinching the Shoots.

Always be attentive to the foot of the wall and espalier trees, to observe if any regular shoots are produced where wanted, either to fill a present or apparent suture vacancy, or to serve to train up between the main branches, to be ready to supply the place of any casual decayed or worn-out bearer, observing if in summer any wide vacancy surnish only one regular shoot, and two or more are requisite, may prune or pinch it in May, or early in June, to sour or sive eyes, to surnish the supply of two or three lateral shoots the same year; or if in winter, prune it also more or less as you shall see necessary, to gain the surther supply wanted.

If in the class of regular-placed shoots, any assume a remarkably strong growth, observe its particular situation and strength, and consider whether it is wanted; if it is exceedingly rank or luxuriant, and likely to prove hurtful, by draining the nourishment from the neighbouring shoots, cut it quite out; but if it appears useful either to sill a vacancy, or to exhaust redundant sap in vigorous shooting trees, may either prune it to sour or sive eyes the same summer, that instead of one luxuriant shoot it may furnish several moderate ones the same season, to chuse

chuse out of in the winter pruning; or if thought necessary to retain any such shoots, principally to carry off the superabundant sap, may run them at sull length till winter, and then cut out close.

Irregular Shoots.

IRREGULAR shoots comprise all such that either arise aukwardly in parts of wall and espalier trees, &c. when they cannot be possibly trained in with any degree of regularity, or are of themselves of an unsightly or bad growth,

and should be timely pruned out.

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For example: All fore-right shoots issuing from the front and back of the branches, or in fuch other parts in wall and efpalier trees, where being fo ill fituated that they cannot be trained confistent with the regularity of the general branches, are of the irregular kind, and should be pruned out; likewise all deformed shoots, being either very crooked, stunted, or of a bunched unfeemly growth, are also of the irregular denomination; very rank or rude growers; all very weak shoots, and singularly long, feeble, or flender shoots, with uncommonly long joints, may come also all under the irregular class, and all of which irregularities should, for the general part, be mostly exterminated, by pruning them close off early in the summer, as soon as they are distinguishable from the regular and proper shoots, and which may be commenced in the fore-right growths particularly, when only about an inch or two long, when they may be expeditiously displaced with the thumb, taking off the other irregular shoots, when long enough to discover their nature; which if left till they become woody, must not be rubbed off, but pruned

pruned out with the knife; observing however in vacancies when there is not a sufficiency of regular shoots, situated contiguous to supply the place, then the best and most savourable growths of those denominated irregular, must be retained, in default of better, to surnish the vacancy, and

the rest pruned out.

Likewise those small lateral twigs, emitted from the sides of the main shoots of the year, designed for training in to form bearers, are also of the irregular and improper kind, and should generally be cut off close; though sometimes in shoots intended to furnish a supply of wood to fill a vacancy, some of the strongest, best-placed, of those lateral twigs, situated towards the lower part of the mother shoot, may be admitted of, one luxuriant shoot will have three or sour middle-sized ones to chuse out of in winter pruning, as observed in the article Regular Shoots.

In occasional wide vacancies, if none but irregular shoots are produced, and that a supply of wood is wanted, retain the best for want of better, and if only one shoot arises in such places, and two or more are requisite to furnish the vacant space, may pinch or prune the shoot to a few eyes early the same summer of its growth, to force out lateral ones at the lower buds, and of which select the most regular to fill the vacancy.

All such rank shoots that are distinguished from all the others by their singular thickness, colour, and sometimes desormed growth, come under the class of irregular and improper shoots, and for the general part are not eligible to train in for bearers; but if wood is wanted in that part, and there is no other resource, may retain such shoots occasionally, and let them be pruned either the same summer, or in winter pruning,

pruning, to three, four, or five eyes, and they will produce the like number of collaterals, that will probably assume a more kindly growth.

All uncommonly long, slender shoots, and such as have the eyes placed very remote, may also be deemed of the irregular kind, and improper to train in for bearers where there is choice of others that are of a more eligible growth, in which case they should be retrenched both in summer and winter pruning, or cut to an eye or two, to surnish a choice of better shoots for future use, where wanted.

Very weak, feeble shoots, and such that are of a dangling growth, are considered also as improper, and should generally be cut out, unless any of them arise where they may serve to fill a vacancy, or are likely to be serviceable hereafter; and prune them either in summer or winter to one or two eyes, to produce the like number of stronger shoots, proper for training.

Where two or more shoots come out from the same eye, it is an irregularity, and should generally leave but one, that which is the best-

placed.

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ter og. Be always careful in displacing the irregular and improper growths early in summer, to obferve the fruit spurs in the spur-bearing trees, not to mistake them for advancing irregular woodshoots, which however in their advanced growth are with facility distinguished from the fruit spurs.

It is a great advantage to begin early in summer to prune away the irregular and bad growths of the year, in wall and espalier trees, yet it is an operation often very ill attended to; but as there are so many advantages arising from the early performance of this necessary operation,

it should by no means be omitted, it facilitates every part of the business of pruning, supports the regularity of the trees, and never fails to encrease the fize, beauty, and goodness of the fruit, ripening it in earlier perfection; but when the work is neglected too long, the numerous irregular, and improper, useless shoots, grow into an obscure thicket of wood and leaves, darken, choak up, and retard the growth of the fruit, besides appearing very disagreeable to the fight, and cost a great deal of time, pains, and precaution, to penetrate and break through the obscurity, to determine what is neceffary to be done, what to take out or leave, and to do all that might have been done with great eafe and expedition a month fooner, to the much greater advantage of the trees, and benefit of the fruit, by having thereby all along the free admission of the fun's rays, and full air from their earliest growth.

Moreover, when the irregular or ill-placed shoots, and other improper wood of the year, are fuffered to become too long and woody, it often requires such force to cut them down, as to do violence to the mother branch from whence they proceed, which also, and the impossibility of feeing what you are about, is apt to shake off part of the contiguous fruit; and in feveral forts of stone fruit particularly, much cutting out of strong wood often causes the parts to gum, as very frequently occurs in plums, cherries, apricots, &c. befides you never can cut so close to such a nicety, as when you proceed in the work early, before the shoots are so much advanced in growth; whoever, therefore, finds himself in this perplexity, must be as careful as possible. The rest of the second to the second

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But as it is obvious to every one, that in spring and summer most wall and espalier trees abound with a great number of young shoots, many of which being irregular or ill-placed, and others of a bad growth, we should therefore ease the trees of every thing that is either use-less or hurtful as soon as possible, especially as the beautiful sigure of the tree, and a reasonable quantity of fruit, the two main objects, depend entirely upon the true performance of this operation of good pruning and training at the proper periods, and consequently the early summer pruning is of the greatest importance.

Take therefore the first opportunity in the end of April or May for the earlier trees, such as apricots, peaches, nectarines, vines, &c. to displace all the obviously irregular growths of the year, such as all fore right shoots before and behind the branches, which at this early period may be easily detached with the thumb, as we already observed, being careful in the vines particularly, which having the fruit shoots, advancing in their early state with the embrio bunches of grapes in the bosom of the young

leaves. See rubbing off the Buds.

In one, two, or three weeks after, according to the growth of the different forts of trees, all the other irregular growths will have advanced long enough to distinguish them from the proper shoots, when they must also be taken off close, being careful always in the spur-bearing trees to distinguish the fruit spurs, both those already formed, and such as are now forming; and in the trees in general, keep in view the requisite supply of regular shoots, that in displacing the irregular ones, you leave a suf-

ficiency of the others, according as the different forts of trees shall require, at their natural length all summer; and at the same time retrench all the evidently superfluous growths.

During these summer operations of retrenching the irregular wood of the year, have particular regard in displacing the bad shoots, not to break out any with the thumb, but what are so young and tender as they will easily break off close to the mother branches, without tearing off part of the wood or rind; and when they are hardened and become woody, must always use the knife, generally taking them off close to the old wood.

After clearing out all the irregular and improper wood in the fummer regulation, let all the felect supply of regular shoots, when of due length, be laid in straight and close to the wall and espalier in regular order all summer as they advance in length. See rubbing off the Buds.

Having thus in summer cleared away all the irregular, ill-placed shoots, bad wood, and superfluous or bad growths of the year, and the reserved supply of good shoots laid in regularly, should go over the trees once a week, or fortnight, and displace all after shoots of irregular or bad growths, and continue the regular supply always straight and close to the wall all summer, as they advance in growth.

And in winter, if any irregular wood was comitted in summer dressing, it must be then cut clean out close to the mother branches, as observed in the summer pruning. See the Gene-

ral Pruning.

Fore-right Shoots, their Inutility, and Method of pruning, in Consequence thereof.

fhoots that arise directly from the front and back of the branches in wall and espalier trees, in a fore-right direction, and are opposed to regular-placed, or side shoots, and by their irregular and aukward situation cannot be trained in with a proper degree of regularity, consistent with the requisite uniformity of wall and espalier trees, therefore come under the class of sirst rate irregular, or ill-placed shoots, and should for the general part be displaced in their early growth.

See rubbing off the Buds.

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For although many of the fore-right shoots may be good of themselves in respect to being of proper growth, yet by being aukwardly placed for training in, cannot with due propriety be employed for that purpose, and as they are often emitted numerously from the main branches every summer, and that, if not timely retrenched, would occasion a considerable confusion of wood, it is therefore of much importance to retrench them as early in fummer as poffible, when only an inch or two long, either by rubbing them off with the thumb and finger when quite young and tender, or pruned with a knife in their more advanced woody growth, taking them all close off; being careful in this operation to distinguish the wood shoots from the fruit spurs, either those previously formed, or now forming, as formerly hinted, which must be particularly attended to in trees that bear principally upon spurs, that they may be carefully preserved, only retrenching the

fore-right wood shoots, easily distinguishable by their free growth, and advancing in length.

It is of great utility to displace all foreright shoots in their early growth, before they advance too long, form a thicket, and create disorder; and the work may then be much more expeditiously and effectually performed, the trees preserved regular and beautiful, and the fruit greatly improved.

If this work of retrenching fore-right shoots is began in May, or early in June, before they become woody, they may be very expeditiously detached clear off with the thumb and singer; but if omitted till they become long and woody, it must be performed with the knife, otherwise you

will damage the mother branches,

Lateral or Collateral Shoats, their Order of Growth, Utility, and proper Sorts described, and Rules for pruning and training accordingly.

ATERAL shoots, or collaterals, comprise all such shoots as arise collaterally from the sides of the branches, &c. and are in many cases most useful, in others useless, and sometimes detrimental.

Confidered as useful; wall and espalier trees producing numerous lateral shoots annually in summer, both from the upper and under sides of the branches, as well as from the front and back in a fore-right direction; those only which arise principally on the upper and under sides, or regularly to the right and left, so eligibly situated as they can be easily arranged to the wall, &c. with regularity, can be admitted as regular laterals; such as advance from the front fore-right are irregular, and must be retrenched, retaining only the side laterals for training, either in the first formation of the head, or as a gene-

a general supply of wood, or as successional bearers, or to surnish any casual vacancy.

In the first formation of a fruit tree for wall and espalier training particularly, we commonly cut down the first and second years main shoots from the budding and grafting, in order to force out collaterals from the lower eyes, to furnish a larger supply of shoots below, to form a fuller fpreading head, and by this operation, feveral laterals are obtained; of which we must select principally only those of the two sides, and reject any that are produced on the front, taking them clean off early in their growth; and thus continue every year retaining a proper fupply of the fide collaterals of the most regular growth, till we have by degrees trained in a fufficiency of branches to give the head the defired formation, either as a wall or espalier tree.

It must however be observed, that even after the trees are fully trained, some forts which bear only on the young wood, require a general supply of young collaterals annually, as successional bearers; others, which continue bearing many years on the same branches, want only occasional

supplies of laterals in particular parts.

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A general supply of regular side lateral shoots is requisite every year, as bearers in vines, sigs, peaches, nectarines, and apricots, all of which bearing principally on the young yearling wood only, which at the same time produce both the crop of fruit, and a supply of collaterals for next year's bearing, the same shoots bearing but one year, except on some casual spurs; so should make a general reserve of all the regular placed side laterals in every part of the tree, trained to the wall in summer at sull length, a sufficiency to chuse from in the winter pruning, both to surnish next summer's fruit, and the supply of laterals for E 2 bearing

bearing the year after that, and so of each year both in summer and winter dressing of all the tribe of trees that bear on the young wood; at the same time prune out all the irregular and useless col-

laterals, as hereafter explained,

Remarking however in all these sorts of trees, that all lateral twigs emitted from the main shoots of the year intended for next year's bearers, should either in the summer when produced, or in the general winter pruning, be all pruned close off to the main shoots; unless it appears necessary to reserve any to surnish a vacant space, for want of principal shoots; but except in this case, retrench all laterals arising from the

shoots of the year.

Occasional supplies of collateral shoots are applicable also to all trees which bear on the wood of several years standing, as in apples, pears, &c, in which, as the fame branches continue bearing from two or three to many years old, they confequently require only a cafual supply of new lateral wood in particular parts, according as any bearer declines, or assumes a worn-out or decayed state, in which case, some commodious neighbouring young lateral must be retained, and trained up to supply the place; and as numerous, unnecesfary, and fuperfluous laterals will annually arise in the wall and espalier trees of this class of bearers, they should be constantly retrenched, mostly in summer, and the rest in winter pruned close to the mother branches, from whence they priginate.

Of useful collaterals, may also rank all the fruit spurs, being very short shoots, of from half an inch to an inch or two long, easily distinguishable from the wood shoots, and should be carefully retained, as long as they remain fruit-

ful. See Fruit Spurs.

But lateral shoots, considered of the useless kind, are principally such as are produced directly from the front, and behind the branches in wall and espalier trees, in such a fore-right growth as they cannot be regularly applied to the wall, &c. and should for the most part be removed, taking them off quite close mostly in their summer's growth, and the rest in winter

pruning.

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Likewise as useless, or unnecessary collaterals, may be considered all those of the supersuous class, or that are too abundant, more than are wanted, or there is room to train in; so that where there are more laterals, either regular-placed or irregular, than can be converted to use, consistent with the regularity of the general order of training, they becoming unnecessary or usealess collaterals, should be accordingly all pruned out, the greater part in summer; soon after produced, and the rest in the general winter pruning; as observed above in the irregular-placed laterals.

In all vacancies where collaterals arife, make choice of the most regular-placed to fill the void space, one or more as shall be requisite; or if only one is produced where two or more are wanted, it may be pinched or pruned down to a few eyes early in the same summer, or if then omitted, perform it in winter or spring pruning.

Observe in wall and espalier trees in general, that all lateral twigs emitted from the sides of the main shoots of the same year, which are designed to be trained in for bearers, should generally be cut clean off close to the mother shoots; and this holds good both in trees bearing on the year old wood, and those which bear on the many year old branches, unless it shall seem proper

per to retain lower ones of a good growth, to furnish a vacant space as soon as possible.

Side-Shoots, the proper useful Sorts described, and the Order of pruning and training them in general.

CIDE-SHOOTS are fuch as arise laterally from the upper and under fides of the trained branches of wall trees, &c. and are of the class of regular collateral shoots for general training, because, by their fide fituation, they can easily be trained close to the wall without violence or irregularity, as in the case of the fore-right shoots; and a proper supply of the most regular and promifing growths thereof should be retained every fummer, and laid in at full length, to chuse from at winter pruning, in more or less abundance, according as the different modes of bearing of the feveral forts of trees require, as formerly hinted; and let all the worst-placed, and such that are evidently superabundant or unnecessary be pruned out close, the greater part in summer, and the rest in winter. See regular Shoots.

In trees bearing principally on the young wood, such as peaches, nectarines, apricots, sigs, vines, &c. require always a general successional supply of the best side-shoots yearly, in every part of the trees for next year's bearers, generally two or three at least on each mother branch in summer, to chuse from in winter pruning, when probably one of the best of these shoots on every such branch will be sufficient, cutting the rest close out with part of the old bearers, on which they are supported, down to the reserved shoots, to make room to train the proper supply of bear-

ing wood.

But in all wall trees which bear on the fame wood many years, fuch as apples, pears, plums,

&c.

Let. the annual supply of side shoots is not near so considerable as in the other above-mentioned trees which bear on the young wood, selecting only a moderate quantity of the very best shoots in summer in the most vacant spaces, especially towards the lower parts, and trained in close, till winter pruning, cutting out all the others; and if not wanted in winter to supply any vacancy, or renew the place of any wornout bearers or dead wood, prune them close off to the mother branches, from whence they originate. See Lateral Shoots.

Leading Shoots, their general Utility, and Method of pruning and training them, as the different Sorts of Trees require.

EADING or terminating shoots comprehend all fuch shoots that grow immediately at the end or termination of the branches, either naturally, or the branch pruned down to fach a fhoot, to form the leader; for it is proper that every branch should terminate in a young leading shoot, both to extend the bearer a due length, and promote the encrease of the fruitful parts, as well as to draw proper nourishment more effectually to the fruit, being very effential in accelerating its growth in a greater degree of perfection; therefore in the general pruning of most forts of wall and espalier trees, &c. one young leading shoot should generally be preserved at the termination of every main branch and bearer, as far as the space of walling will admit, either growing naturally at the end; or if none is immediately placed at the extremity, or that the branch with its natural leading shoot is advanced too long for the allotted bounds, and that lower ones on the same branch being trained up E 4

in summer till winter pruning, then the branchs may either be occasionally pruned down to the sinft eligible shoot, or to some lateral young branch, terminated by a young leader that does not ex-

tend beyond the proper limits.

If more than one young shoot advances at or near the termination of the branch, or on such part thereof where the leading shoot is proper to proceed, should prune all out close, except the main leader; or that as above-faid, if in winter pruning any branch and its natural leader together is too long for the scope of walling, it in many cases may be pruned with the other shoots thereon, down to the next most eligiblyplaced shoot, situated within the proper bounds,. especially in all trees that bear on the young wood only; but those that bear on the many years branches, may have this performed occafionally; a branch not furnishing fruit-spurs upward, may be pruned down to any lower shoot for a leader, and to form new bearing wood in that part; or in branches well furnished with fruit spurs to the very extremity, and the bearing part of the faid branches not reaching beyond the intended boundary, but that the leading shoots however advances too confiderably in length beyond the proper limits either at top or fides, it may be necessary to prune down the faid shoots close to the end of the bearer, leaving no stump formed of the bottom of the young shoots, as often practifed, year after year, and thereby forming clusters of ragged, barren spurs, at the ends of the main branches.

Remark, however, that where leading shoots can be admitted to their full extent, those of the spur-bearing trees particularly, when designed to advance the length of the main bearers, they must never be shortened; but in most wall trees, &c.

bear-

bearing on the young wood, both leading and lateral shoots are generally shortened more or less,

excepts in figs, cherries, currants, &c.

For instance, apples, pears, plums, cherries, and all other trees which produce their fruit upon' fpurs emitted along the fides and at the ends of the branches, should never have the leading shoots pruned or shortened, where there is sufficient scope to extend them, but trained along horizontally, always at full length, till extended to or beyond the utmost extent of the space of. walling or espalier allosted for each tree to fill, for if the leading shoot of these kind of trees was to be thortened, by cutting off the upper parts of the shoots where fruit spurs first push out, it would both retard their bearing, and force them into a redundancy of frong, luxuriant, useless wood, in: the places where fruit buds would have otherwise advanced.

Branches of the afore-mentioned trees in fulli bearing, having reached to their extreme boundary of the wall, both on the fides and top; and annually producing one or more leading hoots at or near the upper ends, are in fome cases to have the shoots pruned aways close, in others part of the branches pruned down to the pext shoot below, that the branch may still terminate in a leader; for example, if apple, pear,. plum, or cherry trees, that hear on fpues, arifing on the branches of feveral years old, and that the fruitful spurs continue to the very extremity of the branch, and this is extended to its utmost allotted limits, in this case the extreme leading shoots require generally to be all pruned; down within the proper bounds, cutting them close to their origin where it admits, observed as before cantioned, not to leave any stump of the shortened shoots, which would break forth into wood again at every remaining eye or bud; but E 5 where

where the extremity of the branch is in a bad flate of growth, or that it terminates in a bunch of ragged spurs, formed of the remaining ends of former shortened shoots, it should be cut down to the next best single shoot or lateral branch below, to train in as the leader.

It is often the case in unskilful pruning, that in cutting out the superfluous leaders, &c. to sump them off to an inch in length, which breaking forth again next year from every remaining bud into more shoots than before, and these being also stumped off, as the others, till at last the ends of the stumped shoots form large bunches of ragged, unstruitful spurs, hurtful to the trees; retarding their bearing, and appearing most disagreeable to the sight; so that all superfluous shoots, terminating ones, and others, should, where to be pruned out; be cut also to the origin, at least not to leave any stump or eye to shoots gain.

But in trees bearing on the young wood as peaches, nectarines, apricots, figs, wines, we which always bear on the young wood only should constantly have a leading young shoot terminating each branch, either by the leader growing naturally at the extremity, or if too long, prune down the mother branch to the next shoot, or any commodious young branch having a good young shoot for its leader, retaining however only one leading shoot to each branch, pruning the superfluities, if any, quite close, for reasons bet fore given; and generally let the leaders be more or less shortened a most of those trees, according to their strength; excepting the fig, which should never be shortened, their mode of bearing not admitting of it. See shortening the Shoots.

Likewife, always permit the branches of all flandard trees to enjoy their leading shoot, except

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for the fake of regularity, in young trees particularly, in the first formation of the head; but let all the other terminating shoots, in standards general, extend in their natural growth.

Superfluous Shoots described, and general Rules to be observed in pruning and tracing relative thereto.

SUPERFLUOUS shoots comprise all the superabundant growths, or such shoots and branches which are too numerous, or more than what are wanted for training, or than there is room to train in with proper regularity, and are commonly denominated superfluous wood, comprehending both regular and irregular growths; and as all wall and espalier trees annually send out numerous more shoots than can be converted to use, the superfluity therefore of each year's production should be displaced early in their growth, before they run into too great consusion, clearing off however the greater part in summer, and the rest in winter pruning.

Thus in summer pruning wall and espalier trees, selecting a competency of the very best regular-placed side shoots of the year where wanted, proportionable to the nature of bearing of the different trees, as already explained, let all the evidently superstuous growths of the same summer be pruned out early in the season quite close, both to give eligible scope to train in the reserved supply of proper shoots with due regularity, and to improve the growth of the fruit; for by thus clearing out all the superabundant, unnecessary, and irregular shoots in their early growth, before they create much consusion, leaving only the necessary supply of the select,

wfeful shoots, and let these be trained in close at fulk length, during the fummer; the trees will thereby always display their proper regular form, admit the sun and free air equally in every part, to the great benefit of the fruit, and that having only the uleful shoots to nourish, properly extended full to the sun, &c. they will obtain their proper growth, and the fruit fooner arrive:

to maturity in its most ultimate state.

It is of great advantage to all wall and espalier trees, to disburden them in due time in sum-mer of all evident superfluities, or redundant wood of the year, before they form a crowding, dark thicket, and confusion, causing great irregula-rity; and retarding the growth of the fruit; and if performed early in the summer, the work may be effected with much greater facility and

exactness.

But as some trees require a much larger supply of each year's young shoots than others, agreeable to their order of bearing, the superfluous wood will on that confideration appear more or less accordingly; it will be the most considerable in trees that continue bearing on the old wood, and do not want a renewal of young bearers for feveral years, than in such trees as bear on the young wood only, and want a general renewal

of new bearers every yearc

By these rules, retrench only the obviously superfluous growths in summer, that are the most irregular, fo as to leave double or treble more of the regular-placed shoots, than what may appear absolutely necessary, in order to have a sufficiency of the best regular growths to chuse from in the winter pruning; particularly in trees which require a fuccessional supply of young bearers annually, as above observed; as in peaches, nectarines, &c. being careful however to exterminate

unnecessary.

In apples, pears, plums, cherries, &c. which hear on the same wood several years, wanting only an occasional supply of young, the super-sluous wood will often be very abundant annually, and should be all pruned out in summer, close to the mother branches, leaving only here and there some of the best regular shoots till winter, when, selecting the supply wanted, the remaining

superabundancy must be cut clean out.

And in peaches, nectarines, figs, vines, &c... which bear on the young year old wood only,, and want a general supply of new bearers annually, should displace all the superfluous growths of every summer, that are the most irregular, reserving however always doubly or trebly more of the most regular shoots in summer than may appearing to have plenty to chuse from in winter, for the successional bearers next year, cutting out close all the others; and in winter pruning, selecting the best of the regular supply retained in summer, prune out close all the remaining superfluous growths. See the General, and Summer and Winter pruning, Gr.

In very luxuriant shooting trees, it may be proper, both in summer and winter pruning, to leave rather a superabundancy of the young wood, or more than the common rule; especially in trees that bear on the young shoots, and require a general succession of wood annually; also occasionally in the spur-bearing trees, in order that by having a larger supply of wood to exhaust the redundant sap, will contribute considerably towards reducing a very vigorous shooting tree to a moderate growth and regular state of bearing.

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Luxuriant Shoots burtful in Wall Trees, Se. and Rules for pruning and training accordingly.

UXURIANT shoots, are singularly strong I shoots of a vigorous, or rank, rampant growth, arising casually in wall and espatier fruit trees, and others, greatly exceeding in substance the general shoots of the same tree, and often support their luxuriancy at the expence of all the other moderate shoots in their neighbourhood, by robbing them of a confiderable share of their proper nourishment, as well as often appearing of an irregular, unfeemly growth, and without ever forming good bearing branches, and therefore, they, for the general part, should be removed as early in the fame fummer they are produced, as they are discoverable to be of such an unfavourable growth; likewise in winter pruning, when omitted in summer; cutting them close to their origin, leaving no eye to shoot again, except they rife in any confiderable vacancy below, where wood is wanted; in which cafe they may be admitted occasionally; or also occasionally in some particular strong shooting trees, to exhaust the too redundant sap, and prevent a general luxuriancy fucceeding.

These singular luxuriant shoots are very distinguishable by their augmented growth, being of an extraordinary length and substance from the generality of the other shoots of the tree, and rarely form proper bearers, they generally continuing a much greater tendency to a woody growth, producing rank wood, than the production of fruit; and that where such casually arise here and there in a tree, among the other moderate shoots and branches, they should rarely be

ti had

retained

retained to form bearing wood, unless there is no other refource, because very luxuriant shoots are generally long before they arrive to a free bearing flate; that in trees which bear on the young wood, fuch shoots seldom afford many blossom buds; and in trees which bear on the older wood, it is long before they form fruit spurs, generally running much to a firong woody fubfiance, and producing many strong collateral wood shoots, instead of fruitful parts; and befides their reluctancy to bearing, they also greatly impoverish the adjacent shoots and bearing branches, together with the fruit thereof, as well as disfigure the tree; fo should generally displace them early in their growth, except, as aforefaid, it shall appear necesfary to retain any to fill vacant spaces, &c.

Though in strong shooting wall and espalier trees, in which the generality of the shoots incline rather to a vigorous growth, may retain here and there a luxuriant shoot, by way of waste pipes as it were to exhaust the redundant sap, to prevent as much as possible a general luxuriancy

from taking place, as before noticed.

Likewise in wall and espalier trees, where there are wide vacancies, either in young trees in training, or those arrived to a full growth; any contiguous, well-placed, luxuriant shoots, may also be occasionally employed, and either pinched down early the same summer, or pruned the following winter or spring, to a sew eyes, by which they will send out several more moderate-shooting collaterals from the lower buds the same year to supply the vacancy; and the sap being thus divided, instead of one suxuriant, unstruitful shoot, you will have several to chuse from of a moderate growth, proper to train in for bearers.

Suching growths through and one third, or near

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Or fometimes, where a luxuriant shoot arises towards the bottom or lower part of wall trees, &c. in a vacant part, or contiguous to any wornout bearer, naked or barren branch, or between fuch old branches that apparently will foon want a renewal with young wood, or in a weak,-illfurnished part of a tree, may retain it, and pinch or prune it down to a few eyes the fame fummer in June; it will furnish several collaterals of more moderate growth the same season, to train up between the main branches, to chuse from in winter pruning, when the most pro-mising may be be selected, which, after retrenching the bad, may be trained up between the mother branches, either as immediate bearers the ensuing summer, in trees that bear on the young wood only, or to form future bearers of several years standing, in trees which bear on the old wood, principally on spurs; and when arrived to a good bearing state, the contiguous, worn-out branches may be cut out.

So that agreeable to the above hints, in respect to luxuriant shoots, examine their fituation and substance of growth, and see whether they appear hurtful, either by coming under the denomination of luxuriant shoots, robbing the contiguous moderate growths of nourishment; or irregular, or superfluous, or are useful either to fill a present vacancy, or prevent an apparent one, or to waste redundant sap; and either cut out, or retain them accordingly.

But luxuriant growth, prevails not only to particular shoots casually in different parts of a tree, but also often to the whole tree, in which case they must be treated accordingly; that in selecting a supply of shoots for bearers, must retain the most promising and best-placed middling growths thereof, and one third, or near

doubly

doubly more in proportion than the common practice, agreeable to the order of bearing and training of the respective trees; cutting out close all the most rampant and irregular growths, and train the referved felect shoots at full length all the fummer, and in winter pruning, observe that in trees where shortening is generally practifed, let the referved supply be mostly, but very moderately shortened, or some of the most vigorous may be retained at full length; and in trees where shortening is not necessary, train them always entire; and thus by laying the shoots thicker, and mostly at their natural extent, the fap is divided among a larger expansion and extent of branches, checks that luxuriance which would be more predominant in a imaller extent of wood, and is the most effectual method to render a very luxuriant tree a moderate thooter and good bearer. See Luxuriant Trees.

In standard trees likewise, luxuriant shoots fometimes advance in the middle of the head, often numerously in an upright growth, creating a thicket, great confusion and irregularity, and should always be pruned clean out, wheresoever they appear, more particularly in young trees, taking them close off to the mother branch.

Fruit Shoots, the different Sorts described, with the Method of pruning and training them in each Order of bearing.

RUIT shoots are such young yearling shoots that are of a proper growth and situation to retain in wall and espalier trees, &c. principally for-fruit bearers; some as immediate bearing shoots, producing the fruit immediately from the collateral eyes the same and following summer, and serve only for one year, as in vines, peaches, nectarines, and other trees that bear chiefly on the young wood; others.

years flanding, previously emitting fruit spurs along the sides, and on which the fruit is produced, as in apples, pears, plums, and other trees which bear on spurs only, and the same branches continue many years in bearing.

For the purpose of bearers, chuse the best regular-placed side shoots of the same year and a year old, of a free, but moderately strong growth, not luxuriant; for the middling strong shoots are much better calculated for bearers than the rank,

vigorous growths.

But fruit shoots in different trees may be confidered for different modes of bearing in the following order:

Fruit shoots bearing the same year.
Fruit shoots bearing at a year old.

Fruit shoots to train for bearing at one, two, three, and many years old.

Fruit shoots to train for many years bearers.

The fruit shoots bearing the same year they are produced, are exemplified in the vine, which always bears its fruit from the lateral eyes of the young shoots produced the fame year, rifing from those of the year before, and on no others; fo that early in fummer we must be careful in pruning the vine, to observe the shoots that are emitted immediately from the year old wood, examine which are furnished with fruit-blossoms, appearing at first in minute clusters, arifing in the bosom of the leaves; and let all the most promising fruitful shoots thereof be trained in between the mother branches, and extended regularly, straight and close to the wall, to furnish the present crop of grapes the same summer, and to remain to chuse from in winter pruning, for next year's mother bearers; also shoots not furnished with fruit, if well placed in vacancies, must be occasionally retained in fummer to produce fruit thoots

shoots next year; and in winter pruning, select a general successional supply of the best growing, regular-placed, strong shoots retained in summer, to train in as mother bearers, eight or ten inches distance, to surnish the immediate bearing shoots next summer, and cut out the superabundancy.

In the above order the fuccession of fruit shoots are to be annually continued in the vine, extending them mostly at full length, all the first part of the fummer; then may be topped in July or August to one or two joints above the fruit; and in winter pruning, cut out all the superabundant and useless young and old wood, referving a general supply of the best shoots of last summer in every part, let them at the same time be pruned to three, four, five, or fix eyes, and then regularly trained in, and nailed to the wall, &cc. for as thefe are to be confidered as the mother fruit shoots, to furnish the immediate bearers the enfuing fummer, a general fuccessional supply must be every where retained in winter pruning, thinned and thortened as above. See SECURIOR SELECTE Summer and Winter pruning.

Fruit shoots bearing at a year old, are those of peaches, nectarines, apricots, and figs, &c. which always bear principally on the young wood of the former year's production; retaining therefore an abundant supply of the most regular side productions of each fummer, at full length all that season, whereby the blossom or fruit buds rifing immediately from the eyes of the shoots will be very obvious in winter and fpring; particularly in the three first-named trees, being distinguishable from the wood buds by being round, plump, and fwelling; and the shoots discovering the most plenteous supply of good fruit buds in winter pruning are the most proper to retain for bearers, cutting out the irregular and all supersuous growths, shortening the referved supply to from fix, eight, or ten, to afteen inches or two feet long, according to their strength and fituation, &c. being careful not to cut below all the blossom buds in the peach, nectarine, and apricot; and when convenient, it is of importance to cut to a wood bud, from which to obtain a leading shoot in summer, or to a twin-blossom bud, which generally surnishes a good shoot from between for a leader; but the figs discovering their fruit buds in spring, principally towards the upper part of the shoot, must

never be shortened.

In all the above-wall and efpatier trees which bear on the young wood, a general faccession of the regular-placed fruit moots must be referred in every part, at regular diffances, and advancing one after another, from the bottom to the top, laid in more plentifully in fammer, in order to have abundance to chuse from in the general winter pruning; then to be thinned to proper distances, retaining the best-placed and most promising growths for bearers, and to make room for which, cut out all the others close to the mother wood, also a proportionable part of the old bearers, cutting them down to the first best young fruit shoots they fupport, and so as one may form a leader to each mother branch thus pruned down, and occasionally one or two placed laterally, though generally leave but one or two on each former year's mother bearer in full trained trees; but two, three, or more on trees under training in their younger state, or in wide vacancies, as the case may require, ferving both as immediate bearers, and to furnish a future supply of bearing wood.

Fruit shoots to train for present and future bearers, are those of cherries, goosberries, currants, &c. which bear both on young shoots of a year old, immediately from the eyes of the

Thoots.

moots, and on the fame shoots of several years growth, bearing upon spurs, formed along the fides of them, &c. at two or three years old; and as the fame branches and fpurs continue bearing feveral years, the trees require only an occasional supply of young fruit shoots for bearers, according as any old bearer cafually becomes of an unfruitful state, or bears but small, ill-nourished fruit, in which ease leave here and there in the wall and espalier trees a good one in the vacancies, and prune out close all the others; leaving however generally a leading shoot to each branch, either naturally, or if the branch is too long, cut it down to a proper shoot, retaining the fruit shoots mostly entire, as far as there is room to extend them; especially the cherries, which should never be shortened; but as the morella cherries bear more plenteously on the young fruit shoots of a year old, as we have before obferved, it is proper in this fort particularly, when trained as wall and espalier trees, to retain a general fuccession of every year's shoots as immediate bearers, always trained at full length.

Fruit shoots to train for bearers of many years continuance are those of apples, pears, plums, medlars, quinces, and fome other spur-bearing trees, which never bear on the young wood, or immediately from the eyes of the shoots, as in vines, peaches, &c. but always upon spurs arising at the fides and ends of the branches, of. from two or three to many years old; fo that young shoots of these trees retained for bearers. are generally from two or three to four or five years before they produce a proper supply of good fruit spurs, and commence bearers; apples being commonly two or three years; pears three at least, but often four or five years, before they form proper bearing fours; but cherries and plums often furnish fruit spars on the two years branches;

years in fruitfulness; entreasing the number of spurs as they advance in length, and improve annually in the quantity of fruit.

So that in all these spur bearing trees, when once a regular supply of bearing branches is obtained, the same bearers continuing long fruitful, the trees only want now and then an occasional renewal of young bearers, as any old branch casually decays, or becomes of an unfraitful state, retaining some contiguous, well-placed young fruit shoets of the year to supply their place. See Modes of Bearing, Fruit Spurs, &c.

In selecting the necessary supply of fruit shoots in wall and espalier trees, chuse only the very best growths of middling strength, according to that of the respective trees, and cut out the ill-placed and superstuous productions, very rank growths, and weakly twigs, leaving always doubly more in summer of the proper shoots than may appear necessary, to have plenty to chuse from in winter, agreeeable to the order of bearing of the different trees; and in winter pruning, make choice of the best of the summer reserve for your bearers, and cut out the rest, as before remarked. See General Pruning.

Thus, under the confideration of fruit shoots, when performing the occasional pruning and training of the different forts of wall and espalier trees, we must be singularly careful in each operation to retain a necessary supply thereof, according to the nature of bearing of the different forts of trees, either as a general successional supply, as in all trees that bear on the young wood only, or occasional supplies, probably only a well-placed shoot here and there in casual vacancies, as in all the spur-bearing trees.

In standard trees, whose heads having full scope of growth, and but very little pruning required,

they naturally furnish the supply of fruit shoots for bearers always in due abundance in their natural way, according to their respective modes of bearing, and should generally be permitted to assume their own method of growth, without any trouble of pruning; except occasionally reducing considerable irregularities in the early formation of the head, or as may afterwards casually occur; and they will furnish fruit shoots, forming bearers both at the termination, extending the branches in length and laterally, in due order and fruitfulness.

Fruit Spurs, their Order of Growth, Properties, and Method of pruning and training, to obtain the proper Sorts in due Abundance.

RUIT fpurs are short, thick, robust shoots. from half an inch to an inch or two long, produced along the fides of the branches of feveral forts. of fruit trees, and are the principal bearing parts, particularly in apples, pears, plums, and cherries, &c. being emitted from the fides and ends of the branches, when from two or three to four or five, and many years old, often rifing first at the end of a shoot, or sometimes towards the ends of that part which was once the termination of one or two year-old shoots; then by degrees all along the fides, at every eye encreasing in number upward, as the branches advance in length. provided the branches are permitted to remain entire; but if shortened, you cut away the first bearing parts, and force out lateral wood shoots, and retard the formation of the fruit spurs, and confequently the trees in bearing.

But fome forts of trees bear both upon fpurs, on the two, three, and several years branches, and on the young shoots, without forming spurs, such as some kinds of cherries, most forts of goosberries, also currants, and mulberries, quinces, &c. though it is also proper in these kinds, to have the general branches for bearers mostly of several years standing, furnishing bearing spurs along the sides, and terminated each by a young shoot for a leader, for the elongation of the respective branches gradually, where necessary, to encrease the number of fruit spurs; and have young shoots also advancing in vacancies below, both as present bearers, in those forts of trees particularly, which bear also on the young wood, and likewise to remain for forming fruit spurs, and becoming suture bearers, to succeed worn-out branches.

Likewise peaches, nectarines, apricots, and almonds, also sometimes bear upon fruit spurs arising laterally on the two years wood, but not so abundantly for furnishing the principal crops, as in the young yearling shoots, producing the fruit immediately from the eyes, without the formation of previous spurs; but as the occasional small spurs of these trees also bear good fruit, it is proper to encourage and preserve them in all parts, where well-placed, and not advanced to too great a length, or project confiderably, &c. which should be cut away.

But as to apples, pears, and plums, as they bear principally only upon fpurs on the older branches, they rarely ever produce blossoms or fruit buds immediately from the eyes of the young shoots, or on any other without previous spurs, which gradually form themselves naturally on the several years branches, both in wall, espalier, and standard trees, and always with greater facility and abundance, when the branches are permitted to extend at their natural length, without shortening; and at the termination of those spurs, the blossom buds and fruit are produced.

It must be remarked, that by fruit spurs, we so not comprehend those made spurs, or snags, and

and stumps, the remains of retrenched shoots, which is too common in wall and espalier trees, often defignedly left by bad pruners, in cutting out the superfluous wood, which instead of forming for fruit spurs, generally send out strong wood shoots from the remaining eyes, and these being also stumped off like the others, to two or three eyes, shoot out strongly again; and which being pruned as before, and the same method of pruning often repeated, they form large, buches of ragged unlightly spurs, composed wholly of the stumps of shortened shoots, still sending forth a superabundancy of unnecessary wood, and but very little fruit, in comparison to that of the natural spurs; therefore in pruning out the superfluous and ill-placed wood, should generally cut all close to the mother branches, leaving no stump or spur of the lower ends remaining; and by observing this, and generally leaving the main branches of all these kinds of spur-bearing trees entire, to shoot at full length, they will gradually furnish natural fruit spurs, abundantly almost from the very extremity to the bottom.

As therefore these natural spurs are the principal bearing parts in several kinds of fruit trees, they must be every where encouraged; particularly in apples, pears, plums, and most sorts of cherries, as also in mulberries, goosberries, and currants, medlars, and quinces, in all of which by extending the branches mostly entire to their full growth, they in the second and third year furnish natural fruit spurs, emitted from all the lateral eyes, arising first towards the upper parts, and often at the extremity, if not shortened, encreasing in number by degrees all along the sides, often the whole length of the branches.

Proper natural fruit spurs, are of a very short, tobust, and firm growth, from a quarter, or half

top, where they are terminated by the blossom buds; in some sorts singly; in others, in compact clusters, as in cherries, plums, currants, &c.

We must therefore in pruning, and training, the above kind of trees, which bear only on spurs; observe particular attention, both to promote the emission of a due supply thereof, all along the horizontals, or branches designed for bearing; as likewise, when obtained, to preferve them with the utmost care, both in wall,

espalier, and standard trees.

To obtain a fufficient supply, therefore, of proper fruit-spurs, in the aforementioned trees, we must always observe, that in training in the branches for bearers, to extend them generally at full length, as formerly hinted; or rarely ever shortened, till advanced beyond their al-lotted bounds; because as the spurs often arise first towards the upper parts of the branches, shortening them would destroy the parts designed by nature for the first production of fruit; and likewise pruning them short would throw the sap back vigoroully to remaining lower eyes, that instead of fruit spurs, numerous strong wood shoots are apt to arise in the very places, where the bearing spurs would otherwise have appeared, and thereby retard the branches a year or two in bearing, every time they are shortened, before they have furnished their supply of fruit spurs.

That to preserve the necessary supply of the already-formed natural fruit spurs on the several years old branches, we must be particularly careful in all the general prunings of the respective wall and espalier trees, both in summer and winter, always to retain all the fruitful spurs, and only prune out such as casually become unfruitful, very ragged, and cankery, or decayed, or have advanced consi-

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derably long in a fore-right or other aukward directions, retrenching them in winter pruning; but preserve all the healthful, clean, robust spurs in every part, and encourage new ones, according as the branches shoot in length; as also on new

branches, by the rules above related.

Sometimes by cutting away worn-out, or illgrowing spurs, new ones are recovered in the lame places, observing in this case to cut the bad ones quite close in the winter pruning, and in one or two years, new ones will supply the place. especially if the branches are continued entire, as

much as possible.

In trees, which by bad pruning, are furnished principally with clusters of barren wood spurs, formed of the remaining stumps of retrenched shoots, as before described; they should have them gradually cut away in winter pruning, and the branches being continued entire, they will have a chance of forming a proper supply of natural spurs by degrees. See Barren Spurs.

By the foregoing hints, in regard to the fruit fpurs, it will be easy to determine, that all such trees, that affect that mode of bearing, are in their general pruning and training, to have the branches arranged always at full length; at least, as far as the limited space of walling or espalier, and till they have formed their proper supply of fruit spurs; and as to standards, let them always branch away mostly in their own way, with the branches always entire, as in the common natural growth, and they will furnish themselves naturally with plenteous bearing spurs.

It must be observed as a general rule, that if the branches of spur-bearing trees are retained entire, till they have furnished the supply of fruit spurs, they will produce them abundantly; but if shortened in their first growth, they run more

to wood, and never furnish spurs in any considerable plenty.

Barren or false Wood Spurs, detrimental in Wall Trees, &c. the Methods of pruning to prevent them, and reform such Trees in which they prevail.

N wall and espalier trees that have been illpruned, there are often large bunches of ragged, unfightly, projecting spurs, formed wholly of the remaining stumps of former shortened shoots, often projecting considerably in a disagreeable manner, and are generally of a very unfruitful nature, producing annually a thicket of numerous strong wood shoots, and hardly any fruit, causing confiderable confusion, diforder, and disagreeable irregularity throughout, requiring great trouble annually to prune out the superabundant and useless wood they produce, without the advantage of reaping eligible benefit from the expected produce; for these kind of made sputs, never become proper bearers, they being formed in pruning out the superfluous and irregular woodshoots, by erroneous pruners, who, instead of cutting close, prune the shoots off to a stump of an inch or two long, and from every remaining eye of the flumps, more shoots arise in vigorous growth, which, like their predecessors, are also stumped off, and in this manner the pruning being often continued erroneously from year to year, till the branches are wholly covered with the above mentioned large and monstrous clusters of unfruitful spurs, producing hardly any thing but useless wood shoots, is one principal cause of so many ill-formed and unprolific wall and espalier fruit trees, which are fo obvious in many gardens, under the hands of ignorant pruners.

Therefore to prevent the formation of these unnatural and unfruitful spurs, so detrimental to wall and espatier trees, both by causing great irregularity and tetarding their bearing, have particular regard in the operation of pruning, that all the superfluous and irregular wood requiring to be retrenened, be always pruned quite close, not leaving any stump or eye, neither to form spurs or to shoot again, where no wood is wanted; and by observing this, and continuing the branches mostly entire, in the spur-bearing trees particularly, without shortening, at least till advanced bayond their extreme limits, they will not fail to emit natural fruit spurs plenteously their whole length, as we have already observed.

Likewise, where any old wall and espatier trees have been so badly managed, that the above mentioned, ill-formed, barren wood spurs, or stamps of sormer shoots, are predominant, it is adviseable to give the trees a general reform, by retrenching all the most irregular, ill-growing spurs, as well as such of the most unfraisful old branches, that are surnished principally, only with those kinds of disagreeable barren stumps, thereby making room to train the more eligible branches, and young wood from below, with due regularity, in order to sumish natural fruit spurs, and commence sull bearers, as well as to form a regular growth.

Observe therefore in winter pruning, to cut out close all the most disagreeable bunches of barren spurs, and old stumps, close to the mother branches, and likewise any old disagreeable barren branches, pruned down close to others below, of a more prosperous growth, or to any good, well-placed young shoot, and then let the general branches be all regularly trained along horizontally at regular distances, and mostly all at full length, where practicable; especially of the spur-bearing trees aforesaid; and in a year

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er two they will recover a proper growth, gradually emitting abundance of natural fruit spurs, and the whole form an agreeable regularity, and commence plentiful bearers.

Shoots of the Year their Properties in Wall Trees, &c. to train for immediate and future Bearers, and Order of pruning and training.

SHOOTS of the same year's production, or of but one summer's growth, are commonly denominated shoots of the year till the fall of the leaf in autumn, or till Christmas is turned, and

are then called last fummer's shoots.

In some trees, as vines, the shoots of the year are immediate bearers, produced from the last summer's wood only, and a plentiful supply of which must be every summer trained in, both such as are then in tearing, or producing the crop of grapes, the same summer and autumn, and also such others as are well-placed in vacancies; then in winter pruning, the worst are to be thinned out, and a supply of the best shoots retained, shortened to a sew eyes, and nailed up as the mother bearers, to surnish the fruit shoots the year following; for vines always produce their fruit shoots from the last summer's wood, and no other; the same year shoots arising immediately from the old wood, rarely surnish fruit.

Likewife in several other eminent fruit trees, a general supply of the proper, regular-placed shoots of the year are required to be retained every summer for next year's bearers, such as in peaches, nectarines, apricots, almonds, significant, acc. which bear principally on the young shoots of last summer's production, emitted from those produced the year before, and the most regular-placed, and most promising growths of which should always be trained in abundantly

the fame fummer, and continued at full length until winter, or spring pruning, as successional bearers; then in the winter pruning, selecting the proper successional supply, one, two, or three of the best shoots as the case may require, on each of the former year's horizontals, cut out all the others' close, and if any lateral twigs have issued from the fides of the new referved bearers, let them be also now cut clean out, close to the main shoots, which in the peach; apricot, and nectarine, should generally, in the winter prunings, be more or less shortened, as already explained; except in the fig, which leave always entire, then let the whole be trained in regularly for next fummer's immediate bearers.

But in all other wall and espalier trees, it is necessary to train in more or less of the best regular-placed shoots of the year every summer in quantity proportionable to the lundy require agreeable to the nature of bearing of the reff tive trees, as is explained under the article Modes of Bearing; that referving always plenty to chuse from in winter pruning, the superabundancy not then wanted, are easily cut away, it being effentially necessary to have a plentiful choice in the general winter pruning, and better to have some to spare, than to want a single shoot in any part, where required.

However, as in most forts of wall and espalier: trees, numerous more shoots of the year are produced in fummer, than are wanted; chuse therefore only a due supply of the most regular side shoots of middling strong growth, to retain both for mother branches, and for bearers, and prune out close all the fore-right, and other irregular growths, and the evident superfluous wood, very rank shoots, and small twigs, both that arising on the old wood, and any lateral ones from the fides of the F 4

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main young shoots, as before hinted; and generally train in the requisite supply of the eligible shoots at full length, during their summer's growth; unless it shall appear necessary to shorten any strong shoot early in summer, to fill a va-

cancy the same year.

In trees where there are vacancies, or want of wood, either young trees in training, or trees of advanced growth, shoots of the year may be employed to advantage, in expeditiously furnishing the supply of wood required; as for example, if any strong shoot appear in a vacant part, where two, three, or more are necessary, that if pinched or pruned down to a few eyes, in its early growth, several collaterals will be obtained from it below, the same summer, to furnish the vacancy, training them in entire till winter, when the best may be chosen for final training, and the irregular and superstuous, if any, cut away.

In felecting the moots of the year in fummer, to train in either for mother branches or bearers, the middling strong shoots are the most eligible for general use; very weak shoots are improper, and should be mostly pruned out close in summer dreffing; unless there is no other resource; or if any is required to fill a wide vacancy, may be pinched down early the fame fummer, to two or three eyes; likewise casual luxuriant shoots of the year, which greatly exceed all the others in fize, are also to be rejected as bearers, and for the general part cut away, except where it appears necessary to retain any either to fill a present vacancy, or train in below, ready for supplying any apparent future deficiency, and if pinched, or pruned down to a few eyes, early in fummer, you will thereby, instead of one immoderate luxuriant shoot, gain three, or four, of middling growth to chuse from in the winter pruning; though

if any tree incline rather to a general vigorous growth, may also retain here and there a luxuriant shoot of the year to exhaust part of the redundant sap, in order to give some check, and divert the luxuriancy as much as possible from

taking place in the general branches.

The operation of retrenching the nieless and unnecessary shoots of the year in the summer dressing,
if commenced early in the season, while the foreright, and other irregular growth, are quite young
and tender, may be performed with great dispatch
with the singer and thumb, as we have formerly observed; but if they have become hard and woody,
use the knife; and in either method take them off
close to the old wood, without leaving the least
stump, or eye, to push out again, except in any
particular shoot in a vacancy.

One Year old Shoots, their Usefulness described for general training in the different Sorts of Wall Trees, and Directions for pruning them, Gc. accordingly.

NE year old shoots, or such as were pro-duced the last summer, and which in the winter and spring after are denominated last summer's, or one year's shoots, or year old wood, are, in several valuable fruit trees, the principal bearers, i. e. those produced one year bear the next, pro-ducing the blossom and fruit immediately from the lateral eyes, when one year old, and only bear principally for that year, as in peaches, nectatines, apricots, almonds, and figs; and in vines, they are the mother bearers for producing the immediate fruit shoots the ensuing summer; in some other trees, as apples, pears, plums, &c. the one year's shoots being trained in for bearing branches, they do not become bearers, until they are from two or three, to four or five years old. But T F S dom Come gamed

But in all kinds of wall fruit trees, it must be always observed in the winter pruning, that the one year old shoots, or those produced the summer before, are the proper age to train in, both for mother branches, either in forming a young tree, or renewing an old one, as well as for general bearers, some, as immediate bearing wood the ensuing summer; as in all trees that bear on the young wood only; and others to form suture bearers of several years standing, as in all the

four bearing trees.

In all trees which bear on the young wood, as inpeaches, nectarines, apricots, figs, vines, &c. they require a fresh supply of yearling wood annually, for fuccession bearers, for as they bear only principally on the year old shoots, and these only for one year, confequently a general renewal of the one year's shoots must be every year attended to in the process of pruning and training, by laying in abundance of the best well-placed fide shoots of the year. in fummer, which in winter or spring following become the one year's wood, when a proper fupply of the best of them, that are of the most regular growth and fruitful appearance, must be fixed on for next fummer's bearing shoots, retaining generally one at least on each of the former year's bearers, or fometimes leave two or more in wide vacancies, and the ref cut out close to the mother branches; at the fame time, in winter pruning, cutting away part of the old bearers, down to the first best successional fhoot they support; others cut quite away, as shall feem proper; as also prune down any old, naked branches, in order to make proper room to train. the requisite, annual supply of the young year old shoots, as succession bearers; being careful in pruning out the superfluous young wood, and part of the former year's bearers, &c. to perform it fo, that each branch terminates also in a year old bearing, leading shoot, such as is placed either natudown to such a shoot, as above observed; to form the leader, or terminating bearing wood; then nail the whole handsomely to the wall.

But in trees bearing principally on the older wood, upon spurs, and the same bearers continue fruitful many years, such as in apples, pears, plums, cherries, quinces, medlars, currants, goofeberrses, and the like, that after having a fufficiency of the year old shoots trained in by degrees from year to year, to form the eligible spread of bearers, arranged in regular order for wall and espalier trees, they do not want but only a very moderate supply of such shoots in future, and that only occasionally here and there one in any cafual vacancy, where any branch fails, or becomes of a bad growth, or an ill bearer; in which case we may, in winter pruning, have eligible yearling shoots trained in from below, at full length, between the mother horizontals, advancing by degrees to a bearing state, generally preferving the leading year old shoots to each branch entire, as far as there is sufficient room to extend them, and let all the other superfluous and illplaced yearling growths, omitted in fummer, be cut clean out in winter pruning, with fuch part of any old, naked branches, as are worn out, or have become of an unfruitful growth, not furnishing good fruit spurs, cutting them down either to the bottom, or to any eligible yearling shoot, or any young fruitful branch advancing below, still preferving a leading shoot to each branch; then let the whole be regularly trained in their proper places, to the wall and espatier entire without shortening, and continued always at full length to their utmost extent, and they will furnish fruit spurs all along their sides, and remain many years in bearing, as explained ' under the articles; Modes of Bearing. In :

In all wall and espalier trees, &c. observe in winter pruning, that where a supply of wood is required, either for forming the trees, furnishing vacancies, or to form bearers, the year old, or last fummer's shoots should always be retained for that purpose; that having laid in an abundant supply in the fummer before, of the best-placed fide shoots of moderate growth, and retained them entire until winter, then chusing the best of the general supply, cutting the superfluous, irregular, and very luxuriant shoots all clean away, and divest the retained main shoots of all lateral twigs, cut off close; and then, in those trees, where fhortening of the shoots is practised, as in peaches, nectarines, vines, &c. it should now be performed in the winter pruning, [See Shortening the Shoots.] and in trees, in which it is proper to have the branches mostly always entire, train the shoots in at full length accordingly.

If among the year old shoots in the winter pruning there is any very luxuriant grower, you will observe whether it appears of a hurtful growth, likely to impoverish the more moderate neighbouring shoots, by drawing too much nourishment, and cut it clean out; or if placed towards the lower parts, either in a present vacancy, or where one is likely foon to happen, or near any branch becoming an ill-bearer, and that no other more favourable shoot offers, you may retain the luxuriant shoot occasionally, as the cafe requires, but more generally in trees which bear on the young wood, and want a general renewal annually, and if pruned to fix or eight eyes, it will furn in several lateral shoots of a more moderate growth, in the fummer following, affording a greater choice for a selection of regular productions, cutting the irregular thereof away in their early state; but except in the above

above cases, let all singularly luxuriant year, old wood be pruned clean away close to their origin, in the general winter pruning, as above.

Sometimes among the year old thoots, in the winter pruning of wall and espalier trees, many small, triffing, lateral shoots appear, neither proper to retain for wood, nor to form good bearers, and that if there is a proper choice of more eligible productions, they should generally be cut away close, except any appear necessary, for want of better, to furnish a vacancy, or prevent one, or sometimes a weak shoot cut down occasionally to an eye or two, where wood is, or will apparently be wanted, it will furnish one or two stronger shoots next summer, for choice in the future winter pruning, and if not then wanted, cut the whole clean away to the main branch.

Several Years old Wood, its Properties of bearing ins particular Sorts of Fruit Trees, and Method of pruning, &c. to be observed.

I N many of our most valuable wall and espalier fruit trees, the several years old wood form the principal bearers, furnishing the fruit chiefly upon spurs emitted along the sides of them, which is peculiar to apples, pears, plums, cherries, currants, &c. and some other forts. and as the same branches, and fruit spurs, continue many years in bearing, they should accordingly be carefully retained, as long as they remain fruitful, and as in those trained as wall and espalier trees, many superfluous and irregular shoots, will annually shoot forth from the fides of the bearers, they should be all cut cleans off to the main branches, in fummer and winter pruning, except in vacancies, leaving some well-placed shoot, and a terminating one to each

main branch, which should be extended mostly at full length,, or but as little shortened as possible, and only such as have advanced beyond their limited extent, either horizontally, interfering with those of other trees, or have risen above the top of the wall; but otherwise retain all the bearing branches of those kinds of trees entire, and also the occasional supply of young shoots, that are designed to form new bearers.

For in all the kinds of spur bearing trees, if the branches were to be shortened in their early growth, before they have formed their proper supply of fruit spurs, it forces the sap to slow vigorously to the remaining lower eyes, that instead of shooting moderately into bearing spurs, they often send out numerous strong wood shoots, unfit for any purpose, requiring great trouble to retrench them, and retards the trees in bearing, so that all the above sorts of trees should always have the bearing branches preserved entire, advancing with a leading shoot at the end, as far as there is room to train them, and they will surnish bearing spurs abundantly in a short time.

When a supply of wood is wanted in these kinds of trees, either to form a young tree in training, or to furnish a vacancy, or supply the place of any worn-out, or ill bearing branch, retain some well-placed side shoots of the year in summer, trained in entire till winter pruning, when selecting the best for your purpose, cut all the others clean off to the mother wood, and train in the reserved shoots at full length, and they will surnish bearing spurs the second or third year, and bear fruit for many years to come.

But, as before noticed, that as in most wall and espalier trees of the spur-bearing kinds, in which the same wood continues many years fruitful bearers, there will annually arise numerous superabundant and useless lateral shoots that are

not wanted for training, or that there is not room, to train them in, they will require regulating accordingly every year, by pruning out all the most irregular and superfluous growths in summer, retaining only the leading shoots, where room to extend them, and here and there a well-placed side. Shoot, in wide spaces below, till winter, then selecting only such of the best of them that are absolutely necessary to supply any present, or seeming future vacancy, by training them up between the old-branches, and cut all the rest close out; and then train the whole, both old branches and the

new supply, in the requisite regular order.

Likewise in all trees, bearing on the several year's wood, bad branches will casually occur, either not furnishing bearing spurs, or that decline bearing, &c. either through age, infir-. mity, or other causes, incident to fruit trees, in which case they will want a renewal occasionally, when fome well-placed, ftrong youngshoots should be retained, and the casual, barren wood, either cut out directly in winter pruning, or if it appears more eligible, the young shoots may be previously trained up between the older branches, for a year or two, or more, till they form spurs, and commence new. bearers, then cut out the bad old wood to make room for them, but all dead and cankered parts should generally be cut out, as soon as discovered, especially in winter pruning, being. careful to have a referve of proper young shoots, if possible, to supply the place where necessary.

In retrenching the casual bad branches of these kinds of trees, cut them down close, either to the place whence they proceed, or to any eligible branch, or young shoot they support, properly situated to train in, to supply the place

of the part cut away.

It is also further observable, that in the trees bearing on the several years wood, upon spurs, the said spurs will casually assume an unfruitful state, or sometimes they become cankery, or of a decayed nature, which being occasionally cut out close, new ones are often recovered in their stead; also in wall and espalier trees, the old spurs often advance too considerably in a foreright, or other irregular direction, or assume a ragged unsightly growth, which should be occasionally reformed, by cutting out the most irregular occasionally, as they occur, likewise all barren spurs, formed of the remains of retrenched shoots, left in bad pruning. See Fruit Spurs, Gr.

In trees bearing on the young wood only, arising from the one and two years wood, supported on the older branches, it should also be observed, when such mother branches casually become of a long, maked growth, having advanced to the extreme parts of their limited space of walling, &c. and are but poorly surnissed with young bearing wood, or with lateral branches producing such, they should be occasionally retrenched in the winter pruning, cut down either to the bottom, or to any lower more fruitful branch they may support.

Wood Shoots, their Properties for training, both as Mother Branches in the Formation of Wall Trees, Ge. and to furnish casual Vacancies.

fhoots of the year, or a year old, inclinable to a vigorous woody growth, proper to train in occasionally as mother branches, to prune upon to furnish others, either in the general formation of a tree, or to fill casual vacancies in both young and full trained trees, for that being pruned down in their early state, they produce lateral,

lateral shoots of more moderate growth, proper to retain for forming the additional supply of

proper branches for bearers, &c.

Therefore in trees, where a further supply of wood is necessary to furnish any particular part, and that some strong wood shoots are contiguously situated, select the best of them for your purpose, either in summer or winter pruning, and in order to procure more certainly a greater choice of proper moderate shoots, let them be pruned short, either early in their summer's growth to obtain shoots the same year, and thereby gain a year's growth, or in winter or spring pruning, to surnish collaterals the summer sollowing.

That any strong shoot, being pruned, above; early in fummer, or in winter pruning to four, five, or fix eyes, they will furnish the like number of lateral shoots, of which the regular and most promising ones are to be felected for training, and the others retrenched close, then let all the regular shoots be trained in, to commence bearers, unless where a further supply of branches is necessary, when some of the strongest of the new supply may also be converted to wood shoots, and pruned down, as above, to produce laterals; afterwards train-the general supply in the common way, some always at full length, others moderately shortened, in winter pruning, according as the different forts of trees require, by the rules already intimated, and as hereafter.

Thus, under the denomination of wood shoots, may be considered not only all the luxuriant, and very vigorous growers particularly, which, being apt to encrease greatly in a woody substance, without becoming good bearers, are better calculated to prune upon to furnish a farther supply of wood, where necessary, in moderate collate-

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rais, to fill vacancies, &c. and form bearers, than to train in entire for immediate bearers themfelves; but also any strong growing shoots situated in any vacant part, where wood is wanted,
may likewise be employed as wood shoots to
prune upon, if needful, to surnish laterals to

supply the place required with bearers.

So that in all trees where a supply of wood is wanted, the strongest shoots are generally preserable to retain as wood shoots, to prune upon, for surnishing an additional supply of branches; for example, in vacant parts, where there is only one or two strong shoots, and several more are requisite, the present shoots being pruned short, either the same summer they are produced, or in winter or spring after, each will furnish several others of middling size to form bearing branches.

But sometimes in free shooting trees, namerous strong wood shoots arise from the des of the already trained main branches and bearers, in places where they are not wanted, so prove unnecessary, or useless, in which case they should always be pruned out close to the branches, the most part in summer, and if any are then omitted, cut them clean out in winter pruning.

Wood and Leaf Buds described, their general Utility and Methods of pruning relative thereto.

longish flat buds, formed at the eyes of the shoots, and younger branches, very distinguishable from the blossom, or fruit buds, in being oblongish, thin, flattish, and sit close to the eyes of the shoots, the blossom buds being roundish, swelling, or turgid, [See Blossom Buds]

the wood buds being calculated both to produce the general supply of shoots to form wood, and bearing branches, and also for producing the leaves; as likewise fruit spurs in several sorts of trees, as apples, pears, plums, &c. and sometimes immediate blossom buds rise from the same eyes, with the wood and leaf buds, as in peaches, nectarines, and apricots. See Blossom Buds below.

As in feveral forts of trees, which bear principally on the young wood, producing the bloffom buds immediately from the eyes of them, the wood and leaf buds arise on the same shoots with the bloffom buds at the fame time; as in peaches, nectarines, apricots, and some other forts, which bear on the young shoots of a year or twoold; and in which kind of trees it is of much importance, in the operation of winter pruning particularly, to distinguish with precision the shoots that discover the greatest tendency to the production of wood buds, as above explained or to that of bloffom buds, as hereafter described, page 117; in order both to enable us to select some principally for the production of wood shoots, where a further supply of branches is wanted, and also a general supply of the best blossom-bud shoots in every part, for the immediate bearers, the ensuing summer; for if in these kind of trees, we were to retain the wood and bloffom bud shoots promiscuously, as they occur, we should not have near fo good a chance of obtaining an eligible crop of fruit, as when we distinguish one from the other, and make the referve accordingly.

Likewise in trees bearing both on the young and older branches upon spurs, wood buds rise also on the same branches with the fruit spurs, and these spurs also sometimes shoot out into wood shoots, more especially if the branches are shortened, which forcing back the sap, the wood buds shoot out more vigorously, but the branches being generally retained entire, they assume a more moderate growth, and the wood buds push in a gradual moderate manner, some into long wood shoots, others only from half an inch to an inch or two long, and form fruit spurs.

But in trees where a farther supply of branches is required, it may be necessary to encourage the wood buds, to send out strong shoots, to surnish the vacancies by shortening any strong shoot, in, or contiguous to the vacancy, in summer, or winter pruning, and they will thus more certainly push out the same year into wood shoots,

for the purposes required.

Sometimes however in wall and espalier trees. the wood buds froot out naturally and too abundandantly to wood shoots in the branches in general, and the most irregular of which should be retrenched early in their fummer's growth, especially all the fore right buds, which, if attended. to in May, when they have not advanced above an inch, or two, or three long, when they difcover to be shoots, and not forming fruit spurs, which must not be disturbed, they may be most readily detached with the thumb. an operation called rubbing off the buds, which faves much time and labour, that would be necessary if deferred longer to require a knife to prune them out, and it also proves more beneficial to the trees and fruit. See Rubbing off the Buds.

Blossom or Fruit Buds, their Order of Growth and Production on different Species of Fruit Trees, and the Methods of pruning for promoting them in due Abundance.

LOSSOM or fruit buds are those small round fwelling buds, arising in winter and spring, both immediately from the eyes of the shoots of most forts of trees, which bear on the young wood of a year or two old, and at the ends of the fruit spurs, in the several years branches, as in all the spur bearing trees, and are distinguishable from the wood and leaf buds by their swelling, turgid growth, being roundish, plump, and rifing up from the eyes of the shoots and fpurs, the wood buds being oblong, thin, flattish, and placed close, so that their difference is very obvious, and is very materially to be observed in performing the annual and occasional winter prunings in fruit trees in general, that the fruitful parts may be preserved; for the fruit is produced no where, but from where the bloffom buds appear, which containing the fruit in embryo, and which in spring, when they expand into blossom, discover the miniature fruit, some forts in the center, as in peaches, nectarines, &c. others under the flower, as in the apple, pear, quince, and the like, and when the ovary of the infant fruit is fecundated by the farina of the male organs (flamina & anthera) the flower fades, and the fruit advances in magnitude.

The blossom buds are produced different ways, according to the trees of some different genera.

For example: In almonds, peaches, nectarines, apricots, &c. the bloffom or fruit buds rise immediately from the eyes of the young year old shoots, very conspicuous in winter and spring, from the wood and leaf buds, by being round.

round, plump, and swelling, as before observed; generally appearing the most abundantly from towards the middle upward, for the most part singly, and by pairs, in the peaches, nectarines, and almonds, and in the apricot frequently in clusters; and in all of which, the same shoots produce both fruit and wood buds at the same time; so that in winter pruning the above mentioned trees, the utmost attention is required to select a proper annual supply of the best young shoots, eligibly surnished with blossom buds, the young shoots of the former summer being the proper growths, which surnish the blossom buds, and are eligible to retain in winter pruning for next summer's bearers. See Year old Sboots.

In winter pruning the above-mentihned trees, and selecting the best shoots, chuse the middling strong side growers, well furnished with blossom buds, and cut out close all the superabundant and irregular ones; and that as it is adviseable in winter pruning, to shorten the shoots more or lefs, regard must be had not to prune below all the blossom buds, except occasionally in very weak shoots, in order to strengthen them, and that they may furnish stronger shoots next year, and in shortening, in general, cut them mostly either to a wood bud, or, where practicable, may prune them either to a twin blossom, having a wood bud between to furnish a shoot for a leader, or if possible to a fingle blossom, having a wood bud at the same eye for a leading shoot.

It may be observable, good blossom buds are often double, i. e. twin buds, or two at the same eye, having either a wood or leaf bud between, which buds generally set fruit very kindly, often preferable to single buds, even although they have also a wood or leaf bud at the same eye.

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But these trees also produce blossom buds on casual small spurs, rising naturally on the two or three year's wood, and on which the blossom buds are commonly collected at the ends of them in small clusters; generally the most abundant in the apricot particularly; but in all the abovementioned trees, it is adviseable to retain all such spurs that are well-placed on the sides of the branches, being not very long and irregular, and surnish good blossom buds, as they will produce very good fruit; but according as any becomes too long, or advance too much foreright, or are worn out and unfruitful, let them be pruned away close.

Figs likewise produce their blossom buds immediately, from the eyes of the year old shoots in spring and autumn, coming out singly, small, roundish, and green, bearing the fruit itself in miniature, or rather a general receptacle, calyx, or cover, not expanding open, but inclose numerous slorets concealed within, becoming so many seeds, and the general cover still continuing close, gradually encreases to a large size, and as they are produced mostly towards the upper parts of the shoots, the said shoots, in the general process of pruning, must not be shortened, except to cut off

casual dead tops, &c.

As the fig therefore also produces its blossom buds upon the year old shoots only, a general succession of them must be annually retained in every part of the tree for the principal bearers, advancing one behind another, at regular distances from the bottom to the extreme parts of the tree, generally preferring the robust, short-jointed shoots, to the long, smooth, slender growths, with the joints far asunder; laying in a full supply of the best-placed side growers in summer, cutting out all the irregular and super-fittous;

fluous; and in winter pruning, chuse a general supply of the best of the reserved shoots of the preceding summer, and prune out close all the useless and unnecessary ones; also cut out part of the old bearers, and old, long, naked branches, to make room for the young supply, which should be arranged eight or ten inches distance, and at full

length.

pples, pears, plums, cherries, quinces, medlars, &c. produce the bloffom buds mostly upon short spurs, of one, two, three, and several years growth, called fruit spurs, emitted from the fides of the two, three, and many years branches, and at the top of the fours the bloffom buds arise in the spring large and swelling, fometimes fingly, and fome in small clusters, the fame branches continuing furnished with the said bloffom fours feveral years; fo that the fame individual branches must be accordingly continued for bearers, from year to year, as long as they remain in a good fruitful state, furnished with abundance of eligible bloffom-bud spurs, which likewist eetain their fruitful property of several years duration; and as the mother branches advance in length, they furnish an additional supply of new bloffom spurs on their advanced parts; and thus by the order of bearing of these trees, producing the bloffom buds for many years on the fame branches, they do not require a renewal of young wood annually, as in peaches, and all other trees bearing only on the year old wood, but require only now and then a new shoot trained in, as any bearer casually fails, or assumes an unfruitful state, as has been already explained. See also Fruit Spurs.

Though some forts of the above trees, cherries particularly, produce the blossom buds, not only upon spurs, on the several years branches, but also on the young shoots of a year old, immediately

ately,

ately from the eyes of the shoots, without having formed previous spurs; but more especially the cherry; and more abundantly the morella, and fmall May cherry, which two forts, and princicipally the morella, should have a general successional supply of each year's young shoots, as immediate bearers; the fummer following, cutting out a proportionable share of the old bearers not well furnished with blossom spurs.

Currants and goofberries likewise produce their bloffom buds, both on the young yearling shoots, directly from the eyes of them, and upon small fpurs arising along the fides of the two, three, and many years branches and upon small snags, formed of the bottom part of retrenched collaterals, especially in currants; fo that in these trees, we both retain for immediate bearers occasional supplies of the yearling shoots, and continue the older branches feveral years, as the main bearers; at least as long as they remain fruitful in bloffom bud fpurs; and in default of which, retrench them, having young branches previously advancing to supply their

place.

In vines the bloffom buds are not conspicuous before the trees make their new shoots in spring and fummer, when they appear in minute clusters at the eyes of the new shoots of the same year, produced from those of the year before, and on which the small bunches of blossom buds appear in April and May, emitted at the axillas of the leaves, and therefore the faid young shoots must be every where carefully preserved, and when of due length, layed in close to the wall to perfect their fruit the same summer, and to serve as fuccessional bearing wood to chuse from the enfuing winter pruning, in order for training in, as the general mother bearers, to produce the next summer's fruit shoots, or immediate bearers, which

which are always produced from the year old wood only, and of which a general successional supply must be annually retained, in each general winter pruning, and part of the old wood at the same time cut out to make room for them. See Modes of Bearing and General Pruning.

Mulberry trees likewise do not discover the fruit blossom buds conspicuously till they begin to shoot, then they appear the latter end of May, and in June, both on the young shoots of the year, and on spurs; producing the fruit blossom buds, in round compact heads, and the male flowers in long catkins, which foon drop off; but the female bloffom buds remaining, each after being fertilized by the male farina, becomes a large oblong fucculent berry, being generally produced towards the upper parts of the fruit spurs, and young shoots, which in pruning should not be shortened, and that when trained as wall and espalier trees, a succession of young wood should be occasionally retained below, every year, advancing behind one another to fucceed old, or worn out branches; but in standards, let them mostly take their own natural growth.

In most of the nut bearing trees, such as hazel, filbert, walnut, the fruit blossom buds being included in the future bud, are protruded in close-fitting clusters in the spring, from the sides of the young branches of two and several years growth; and the male blossoms in slender catkins

which fall off.

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Disbudding, or subbing off the useles Buds

WALL and espalier trees sending out annually in summer, numerous, irregular, useless, and superabundant shoots that want retrenching, and which should be effected as soon as possible, even many forts while in the bud of half an inch, or an inch, or two long when they may be with great facility rubbed off, without the use of the knife; hence it is called disbud-

ding, or rubbing off the buds.

This being an operation of expeditious fummer pruning of the greatest utility in most wall and espalier trees, by which the false and superabundant buds may be eafily retrenched with great truth and dispatch, with the thumb and finger, instead of a pruning knife, and taken off fo effectually close, that they cannot shoot again, and is of peculiar importance; particularly in peaches, nectarines, apricots, and figs, in which all the fore right buds particularly should be rubbed off close without reluctance, as also all others that are very irregularly placed, and the worst of fuch as are evidently superfluous, or considerably too numerous, or abundant; likewise in vines, all shoots arising from the old wood, where a fupply of new wood is not wanted, as also even occasionally from the year old wood, the worst of such shoots which are devoid of fruit buds, and that are obviously too abundant; being however careful in the fpur bearing trees, fuch as apples, pears, plums, cherries, &c. in rubbing off the fore-right and other false buds, to distinguish which are likely to form wood shoots, and which fruit spurs, to displace only TOTAL TOTAL P-G2

the ill-placed of the former, and retain all the latter; and that to effect this with greater truth, it may be eligible always to proceed with the peaches, nectarines, apricots, &c. first, leaving the spur bearing trees till the buds are advanced long enough to enable you to distinguish the wood shoots from the fruit buds aforesaid.

The proper time to commence this operation of rubbing off the buds is: That for apricots, peaches, nectarines, &c. the latter end of April, or in the month of May, when the fore right and other useless wood buds of the year are from about half an inch, to one, two, or three inches long, or fufficient to enable you to make a proper distinction of their nature, or may at first only just run over, and displace all the fore right buds emitted from before and behind the branches, and in a week or two after, go over all the irregular and fuperabundant growths, while they remain tender enough to be readily detached with the finger and thumb, without violence to rend the bark and wood of the mother branch, &c.

For most of the spur bearing trees, such as apples, pears, &c. the operation of rubbing off the buds may be deferred till the shoots are advanced two or three inches long, so as the wood shoots may be with facility discovered from the

fruit spurs, as before remarked.

Observe in general, that when intended to take the opportunity of this expeditious and advantageous mode of summer pruning, of disburthening the trees early of the irregular and redundant growths of the year, by the operation of rubbing off the buds, it should be carefully attended to while the shoots are young and herbaceous, so as they will easily break off close without tearing the bark of the branches, and

may then be performed confiderably more expeditious and effectual, than when the shoots are permitted to advance more in length, become woody, and require a knife to displace them; and being thus accomplished in the early growth of the shoots, clearing away all the most irregular and useless, proves of much advantage to the regularity and prosperity of the trees, as well as contributes exceedingly to the free growth, beauty, and excellence of the fruit.

As we have formerly remarked, most wall and espalier trees, by means of annual pruning, abound with a great profusion of young shoots in fummer, which require to be thinned, and the trees which bear principally on successional supplies of the yearling shoots, and whose annual supply thereof are commonly shortened in the winter pruning, as vines, peaches, nectarines, &c. are the more particularly subject to this superabundance; which, and in all other wall and espalier trees that fend out many useless shoots every summer, consequently causes much confusion, and should be corrected as early as possible, by beginning the summer pruning with the operation of rubbing off the irregular buds; and you will thereby most effectually preserve the beautiful figure of the tree, and have a reasonable quantity of fruit in the best perfection; always leaving a sufficiency of the regular productions; as for instance, in the peaches, nectarines, apricots, and figs, two or three of the best regular-placed fide-shoots on each of those of the former year (being the present bearers,) may be sufficient, at least two or three toward the lower part and middle, and one at, or near the end, if any are io fituated; and the fame in the vine, or more of such shoots that are well furnished with fruit : G 3

fruit; and in the other trees which bear on the feveral years wood, as cherries, plums, apples, pears, and the like, may retain here and there one of the best-placed side buds, or shoots, along the upper and under sides of each of the main branches with the leading one at the end, the whole to be trained in, to chuse from in the winter pruning.

But this operation of rubbing off the buds is. more peculiarly applicable to peaches, nectarines, apricots, figs, and vines, which bearing on the young wood, generally throw out numerous shoots annually for fuccession bearers, and as many of them will be irregular and superfluous, it is certainly of the utmost importance to clear them soon away, and disburthen the trees early of the useless growths, and disencumber the useful supply: especially as these trees bear mostly immediately from the eyes of the shoots, furnish but few fruit fpurs, some none at all, whereby the useless wood buds are discovered with much greater facility and accuracy in their infant growth, than in trees that bear upon spurs, which in their first formation may fometimes be mistaken for wood shoots in their early state, when but an inch or two long.

However, the operation of rubbing off the buds may also, with proper attention, be practised to much advantage in all the spur bearing wall and espalier trees, as apples, pears, plums, cherries, medlars, quinces, mulberries, currants, goosberries, and the like, that when the shoot buds buds have advanced an inch or two long, being more than the common length of fruit spurs, so as they may be easily distinguished from one another, the operation may be performed almost with equal facility and dispatch; as in peaches, and other trees bearing on the young wood.

Therefore

Therefore in all forts of wall and espalier trees, the practice of rubbing off the useless buds, or pruning away the irregular and false wood shoots early in fummer before they advance much in growth is a work of great confideraition in the operation of pruning, and should by no means be omitted, when time will possibly permit, as it may be performed in a quarter of the time, than if the shoots are permitted to advance much in length, and prevents confusion, and faves much time and perplexity, as must be the case, when the whole summer's production of wood is suffered to grow into general diforder, and the trees exhibit an irregular, unlightly growth in the leason, when they should display the greatest regularity; and besides this, it greatly retards the growth of the fruit and debases its quality, but by attending timely to the operation above advised, of divesting the trees of all the most irregular and superfluous wood shoots in their early growth, every possible advantage is acquired for the welfare of the trees and fruit.

If this work is begun early, while the foreright shoots are quite young and tender, it may be so effectually performed with the thumb, and the useless shoots detached so perfectly close, without leaving any stump, that they are not apt to shoot again, as when permitted to grow long, and require the knife; and we also see our work more clear before us, readily discover the irregular from the regular-placed growths, and be able to accomplish the business of displacing the fore right and evidently irregular and superfluous shoots, with considerable dispatch, and of eafily distinguishing and retaining the eligible well-placed shoots with proper regularity, and of training them when of due length in their proper G 4 places,

places, with much greater exactness and expedition; and when this work is well executed early in fummer, it will render the future operation of pruning very inconfiderable the remaining part of that feafon, and that eafily and expeditiously performed, as also in the winter pruning.

It is therefore advisable to commence this necessary operation of rubbing off the false wood buds in April or May, or according to the forwardness of shooting of the different forts of the wall and espalier trees, beginning with the earlieft first, and end with the latest shooters; may begin in April, and rub off only all the fore-right and back shoots, and in the middle or end of May, when they will be advanced enough to. furnish a proper choice, finish the rest regularly throughout.

The several varieties of peaches, nectarines, apricots, and vines, are generally forward shooters, and may begin with those forts first, then with cherries, plums, pears, apples, mulberries, figs, &c. when the wood buds are not more than an inch or two long, being careful to keep in view all the best regular-placed to retain for training, and in the four bearing trees, to distinguish the young fruit spurs from the wood buds; as also. in the vine, to observe the fruit shoots, discovering

the embryo clusters of fruit.

That having regard to these particulars in the first time of going over the different trees, rub off only all the fore-right shoots in particular, and other remarkably ill-placed productions of the year, and fuch as are obviously useless, and overabundant, agreeable to the intimations given of the levealr forts of irregular shoots under their respective heads, rubbing them off quite close with the thumb, leaving no part to shoot again, being however careful at the same time to retain a proper supply of the best regular-placed side shoots in proportion to the former mentioned hints, according as the order of bearing of the respective trees, and these permitted to advance at full length; except pinching any particular shoot to a few eyes in vacant parts to surnish laterals the same year, but retain all the others entire during their summer's growth; and that being thus timely cleared from all the useless shoots, the useful only remaining, they will all point to their proper places, and as soon as of due length, should be all trained in regularly to the wall and espalier in due abundance to have a sufficiency to chuse from in the general winter pruning.

By thus running over the trees early in their summer's shoot, and just rub off the foreright and other unfavourable growths of the year, forwards the business of summer pruning exceedingly, and in two or three weeks or a month

after, may give a general regulation,

Let it however be remarked in this work of rubbing off the buds, that it can only be practifed with propriety while the shoots remain quite young and tender, for when they become of any considerable length and woody, the breaking them off with the hand must not be attempted, as they cannot then be detached without violence, and rending off part of the mother branch; so that when the rubbing off the useless wood buds was omitted at the proper time in their infancy, they, in their advanced growth, must be pruned out with the knife, as observed under the head praning out the irregular shoots of the year.

If two or three shoots come out together from the same eye, displace all but one of the best, and

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especially if towards the end of the mother shoot,

leave only one for a leader.

In the above work be attentive to the lower parts of the trees, if any shoots appear where a vacancy is, or one is like to happen by any branches decaying, or becoming unfruitful, retain it, and if very strong, and in a wide vacancy, may pinch it to a few eyes in June, to furnish laterals the same yeer.

Very gross or rank shoots should generally be removed, unless they appear proper to surnish wood, when wanted, when such may be retained if there is no other resource, and pinched down early to a few eyes, to force out three or four

moderate collatterals.

All weak shoots from the old wood should generally be rubbed off, unless any appears necesfary to retain for a vacancy.

It should be observed, that in performing this operation of rubbing off the buds, there is some variation to be made in the different ages of the trees.

In young trees of a year or two old in the first training, rub off all the buds pushed out before and behind the stem and mother branches, leaving none but those on the sides, and when it happens that one side pushes out more than the other, pull off the redundancy in the full side, to render both sides equal, and if one shoot advances more luxuriantly than all the rest, may either rub it quite away, if it can be spared, or prune, or pinch it down to three or sour eyes, and it will shoot out laterals probably of a moderate growth, proper for training.

May practife nearly the same method the first three or sour years, in young trees under their sirst training; observing if a tree is vigorous, leave the shoots thicker than in one that is weaker; in order to divide the sap and

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check a general luxuriancy, take away all the fore right shoots, and preserving only the best of all those that come out from the sides, at least as many as there is sufficient room to lay in.

In old trees it is proper, not only to rub off all the ill-placed and false shoots, but even all those that exceed a certain degree of vigorous growth and weakness, in order to strengthen the others, and it is better to retain but a moderate sufficient quantity of the best shoots, than to crowd the tree too much; especially in trees that are rather much advanced in age; but as to trees in their prime of growth and bearing, the general directions given in the former part of this article are to be observed.

Pinching the Shoots. of the Year, to fill Vacancies, &c.

PINCHING the shoots is a most necessary operation of summer pruning, practised occasionally in wall and espalier trees early in summer, to particular shoots of the year in vacancies, to gain a farther supply of wood the same year, to fill the vacant parts as soon as possible, and is effected by pinching off the top of some strong young shoots in their early growth the same year in May or June, before they become long and woody, in order to force out several laterals from the remaining lower eyes the same summer, to train in to chuse from in the winter pruning, either to form the head of a young tree, or to fill a vacancy in old ones.

For example: Where a vacancy, or the neceffity of a farther supply of wood is discovered early in summer, either in young or old trees, and that there is only one strong shoot produced, where where two, three, or more are requisite, either to form a young head, or to fill a vacant space, let the shoot be pinched or pruned down in its early growth to three, four, or sive eyes in May, or the beginning of June, and it will afford as many laterals the same summer to supply the vacancy, and hereby a year's growth is gained, without waiting till next winter, or spring pruning, to shorten the above shoots, to surnish the aforesaid supply of laterals.

But it is necessary always to perform this work early in the summer, before the shoots advance much in length, or become woody, so as the shortening may be easily effected, by pinching it off with the singer and thumb; and by being early performed in the sirst growth of the shoots, they surnish the laterals more freely the same season, and these will have time to effect a good summer's growth, and gain due strength against winter.

However, when it happens that the operation has been omitted too long, so as the shoots have become hard and woody, then, instead of pinching, must employ the knife, pruning them to a

few eyes, as above directed.

All the regular shoots obtained by this operation of pinching or pruning the young shoots of the same summer, to gain wood, should be carefully trained in, as they advance in growth, generally at sull length all summer; and in winter pruning, are to be managed, as the different teees require, conformable to their respective modes of bearing, and that of the general pruning and training, advised to be observed accordingly.

Pruning

Franing out the superstuous, false, and ill-placed.
Shoots of the Year.

N fummer, as all wall and espalier trees produce numerous superfluous and false shoots, which cannot be converted to use, being either too abundint, and more than are wanted, or of a bad g owth, or ill-placed, they, as foon as of fufncient length, to distinguish them with facility, from the requifite supply of regular shoots, should be pruned clean out in all parts of the trees, and it is of very fingular advantage to have this very important pruning performed early in the feafon, before the trees have shot into any considerable diforder, and have the regular supply trained to the wall and espalier in a regular manner, being most necessary operations, which should be assiduoully attended to every fummer, in due time, with the utmost diligence, to every kind of wall and espalier trees, to preserve their requisite regularity, beauty, and fruitfulness, as well as greatly improve the perfection of the respective fruits, and have them ripen earlier; for if, in wall trees, &c. this useful work is omitted but a few weeks too long, when the trees are in full growth, it will be obvious to every one, how fast they will shoot into the greatest confusion and irregularity, difagreeable to appearance, and hurtful to the fruit, and require considerable more trouble and labour to execute the bufiness, than if began in the early shooting of the trees; and if omitted entirely for one fummer, what a diforderly thicket would the trees exhibit, and how infignificant the fruit, in comparison to that of trees well regulated? therefore, the methods I shall advise;

advise, will prevent all such inconveniences, and there is nothing difficult in the practice.

This work may be divided into two, beginning the first upon the fore-right shoots, when only from one, to two or three inches long, while they remain young and tender enough to be rubbed off with the finger and thumb; and perform the fecond, or general fummer regulation of displacing all the other superfluous, irregular, and false young wood of the year, in two or three weeks after, when the shaots are advanced of a proper length to enable you to make a proper choice of the most eligible growths for laying in, and to determine which to retrench in general; observing, if the operation of rubbing off the buds, was omitted in the early fummer's shoots, the work of the general regulation should be entered upon in May, or beginning, or middle of June at farthest, proceeding with the earliest shooting trees first; particularly peaches, nectarines, apricots, and vines; and fo of the others in their turn, according as they advance forwardest in shoot; such as cherries, plums, pears, figs, currants, and other kinds trained against walls and espaliers.

If the work of rubbing off the buds of foreright shoots, and other evidently useless growths of the year, was early attended to in April and May, as directed under its proper head, there will be considerably less to do in the general regulation, and the work can be executed with greater accuracy and dispatch; but if that operation was omitted at the proper time, there is every thing to be done, of which, a considerable part might have been very expeditiously performed with much greater facility and truth, a month before, as we formerly suggested, and saved a great deal of pains and labour in the general summer dressing.

However,

However, with regard to the general summer regulation, of exterminating all the superflu-ons and ill-placed growths of the year, and training in the requifite supply of regular shoots, it is most adviseable to proceed in this work in May, or June at latest, and the earlier in that month the better, especially for the more forward shooting trees such as vines; but as these particularly will have that confiderably, thould commonly have their first dressing in May, before the shoots grow disorderly, and entangle with one another; and as by June, most forts of wall and espalier trees will be very much advanced in their numerous shoots of the year, and greatly require a general reform, all expedition should then be used in that operation; observing therefore in the profecution of this necessary business, keeping in view the requifite supply of all the best regular-placed shoots, for laying in; let all the obviously superfluous shoots, and fore-right growths be pruned out close; likewise all other false. shoots, and ill-placed wood of the year, illformed shoots, very luxuriant growers, fmall feeble twigs, together with every thing which feems to create confusion, or appears useless, cutting the whole close off to the mother horizontals, carefully retaining an abundant supply of the regular fide shoots proportionally as the different kinds of trees shall require to lay in plenteously to chuse from in winter pruning, either as a general fuccessional supply of next year's bearers; as in all trees which bear on the young year old wood; or to supply casual vacancies, in trees bearing on the many years branches upon fpurs; in all of which, however, retain always doubly more of the regular growths, at this time, than may appear necessary, and a leading shoot mostly at the termination of all the main branches,

where room to extend them; and generally let the referved supply of regular shoots be divested of all lateral twigs, preserving them also mostly entire, at their natural length, in all parts where there is sufficient scope to train them along, for

reasons before explained.

Directly after the operation of retrenching the fuperabundant, irregular, and useless growths, or as foon as the general supply of reserved regular shoots are of proper length, a foot or more long, lay the" whole in regularly, close to the wall and espalier. extending them along fraight, and mostly at their full length for the present; unless it shall appear expedient to pinch or prune short any particular shoot, to fill a vacancy, generally arranging the the shoots parallel at equal distances, consistent with the requisite uniformity, and to give free access to the sun, air, &c. equally, the whole length of the shoots, and regularly in all parts of the tree, which are effential benefits, both to the shoots themselves, and the present crop of fruit; being careful hereafter, as the shoots advance in length, for take any irregular direction, to continue them closely arranged to the wall and efpalier, and reform the irregularities, as well as displace all after-shoots, produced during the fummer, and occasionally cut down, or shorten: fuch as advance confiderably above the topof the wall, or run any where greatly out of bounds.

Thus by timely correcting the irregularities of the summer's growth, by retrenching the superfluous and bad, and training in the regular wood, the trees will exhibit a beautiful regularity, as they should do in this season; and the fruit will receive every possible advantage, its progress considerably forwarded, appear agreeably conspicuous through all its different stages, and its fize, goodness, and early maturity, and flavour greatly improved; for having nothing but regular and necessary wood left, and that closely arranged to the wall, &c. in regular order all summer, admits fully all the essential benefits of the fun's warmth, free air, rains, dews, &c. all of which contribute exceedingly, not only to the improvement of the present fruit, but also to that of the shoots now trained in for bearers, more especially of those designed for the immediate bearers next year; as in the vine, fig, peach, and other trees bearing on the year old shoots, which being so regularly trained, as to enjoy fully the necessary advantages of the fun, air, &c. as above, hardens and ripens them properly in preparation for the following year's bearing, and is also of fingular advantage to the shoots of all other kinds of wall and espalier trees, in promoting a fruitful growth.

The utility of this operation, performed in proper time, may be easily imagined, it must greatly strengthen both the fruit and supply of regular shoots remaining; for as the trees having only those and the fruit to nourish, they must of

course thrive better in all respects.

Besides, those ill-placed and other salse and superfluous shoots, that you have either removed now, or at the time of rubbing off the buds, and which must at any rate have been retrenched hereafter, would, perhaps, if lest longer on the trees, have grown so rude and disorderly, as to have injured the neighbouring shoots that are well-placed; but these being now disencumbered, they will consequently receive better nourishment in all respects, and become good future bearers, and produce fairer fruit in proportion.

But this business is often omitted so long, till the trees have shot two or three feet in length, and run into the utmost confusion, appearing shamefully irregular and disagreeable, as well as proving highly injurious to the present crop of fruit, which is a very erroneous practice, and no confideration of other work should induce any body to fuffer their wall trees, &c. to grow in this diforderly manner, it often proving an irreparable loss in the crop of fruit, besides causing confiderable anxiety and trouble to penetrate through fuch a confusion of wood and leaves, to know where to begin, or what to retrench, or what to retain as proper for laying in; and that the fruit being long shaded from the sun and free air, behind fuch a thicket of branches, it both retards its growth, renders it of a bad colour, and fo tender, that upon being fuddenly exposed by pruning out the false and superabundant young wood, and laying in the regular, generally receives a very great check, and often a confiderable share of it withers, and drops off, before it attains half way to maturity; more particularly the tenderer kinds, as peaches, nectarines, grapes, apricots, &c. but being gradually exposed to the free air in its infancy, by timely difencumbering it from the useless wood, and training the regular close, is by this means inured to the weather, becomes hardy, and assumes its proper growth.

Another advantage in performing this work early is, we can take off the false shoots cleaner, because a great confusion of wood, advanced confiderably in length, prevents you from cutting so close as is necessary, and by leaving stumps, they are disagreeable to sight, and soon shoot out again the same year, causing great con-

fusion and injury to the fruit.

If any of the proper shoots are attacked with the blight, the effect of noxious winds, &c. that curl up the leaves and ends of the shoots, becoming thick, scabby, and disagreeable to the eye, as well as greatly injurious both to the shoots and fruit, by obstructing and wasting the necessary current of the sap, &c. should be prevented from spreading as much as possible, by not only pulling off all the worst of the curled leaves, without exposing the fruit too much; but also prune away the infected part of the shoots below the disorder, which will enable the sap to push out shoots lower down.

Laying in the Shoots of the Year.

L VERY summer wall and espalier trees sending out innumerable shoots, of which many being useless, require cutting out, reserving the regular productions in due abundance till winter pruning; and that according as the trees are divested of all the irregular and bad growths of the year, in summer, as advised in the preceding article of Displacing the superabundant Shoots, as soon as the regular ones are of proper length, i. e. from fix or eight inches to a foot or more long, should be all carefully laid in close to the wall and espalier, regularly between the mother branches, not crossing, but ranged in a parallel manner beside one another, and generally all at full length during the summer's growth.

This work of laying in the shoots should be timely attended to in summer, some time in June, sooner or later as required, it being a work of the greatest utility, the regularity, beauty, and prosperity of the trees depend on it, as well as the im-

proved

proved growth of the fruit; for by having the shoots arranged close and regular to the wall and espalier, gives fred and equal access to the beneficial influence of the fun, free air, rains, dews, &c. as we before remarked; all of which being very effential both to the improvement of the general bearing branches, and the young fupply of new shoots for future bearers, &c. and above all, tends greatly to forwarding the growth, and ripening of the present fruit in an improved flavour; and by the early training of the shoots, they are readily inclined in their proper position, and being extended straight and close along the wall and espalier, the trees thereby exhibit a fine ornamental appearance, and discover to view their respective fruit in the most agreeable man-

This operation of laying in the shoots of the year, is them ofteasy in the science of pruning; especially if the operation of rubbing off the buds, or displacing the ill-placed and superabundant shoots, was executed properly, and none but the most regular lest, having nothing to do, but to fasten them to the wall and espalier; and the whole art of this consists in laying them at proper distances from each other, extending them straight, and at full length, and make them fill up their respective places, that the trees may be regularly surnished throughout with a proper supply of shoots where necessary, according as the different species shall require, agreeable to their nature of bearing.

In performing this operation of laying in the shoots, the greatest regularity should be observed; being careful never to cross the shoots, if it can possibly be prevented; observing generally to lay the shoots, so as to afford a slight coverture of

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leaves

leaves to the fruit; more especially in peaches, nectarines, apricots, figs, and in short almost all other kinds; a moderate shade being very essen-

tial to the growth of the fruit.

In fastening in the shoots; those in wall trees are effected by nailing them along with shreds and nails, which is with facility effected in brick walls, as they afford a better opportunity of driving the nails, than in those built with stone; or some of the smaller shoots may be fastened in with little twigs of willows, &c. stuck between the mother branches and the wall, to save nails and the labour of nailing, and just to keep them close to the wall till winter pruning; but in espalier trees, the shoots are fastened in by tying them with ofier twigs, rushes, rope-yarn, or bass-mat strings, &c.

A fortnight or month after the first laying in the shoots of the year, it is adviseable to review the trees, in order to repeat the work, where it shall appear necessary, extending the new-laid in shoots, according as they advance longer, and to replace such as have detached themselves from the wall or espalier, or affect an irregular direction; as well as to displace any after-shoots produced since the first regulation in places where they are not wanted; and thus continue your care to keep every thing-close and regular all

fummer.

There are some forts of trees such luxuriant shooters as to require this work repeated two or three times, which ought to be attended to, according as occasion requires, in the maner above related.

The above work should by no means be deferred too long in the season, till the trees are grown into confusion, which is sometimes the case, and requires great pains and precaution to penetrate through the thicket and obscurity, as we before observed.

Shortening the Shoots.

IN the operation of pruning wall and espalier fruit trees; some require the requisite supply of shoots to be more or less shortened, in the winter pruning particularly; others only occasional shortening to particular shoots, to obtain collaterals to fill vacancies.

About four or five forts of wall trees require a general shortening of most of the shoots in winter pruning; fuch particularly as the vine; also peaches, nectarines, and apricots; and likewise the almond when occasionally trained as a wall or espalier tree; all of which trees bearing principally on the young wood not more than a year old, require a general fuccessional supply thereof annually in every part, and that as the same shoots both produce the fruit and fuccession bearers at the same time, for next year's bearing; they, if not shortened in winter pruning, are apt to run up in length without furnishing lateral shoots below always with certainty, but mostly towards the top, leaving the lower parts naked of fuccession bearers, which renders the operation of shortening the annual supply of shoots of these kind of trees more peculilarly necessary in winter pruning, in order to throw the fap back to the lower eyes, that they may more effectually emit collaterals in those parts the ensuing summer, to continue all parts of the trees always regularly filled with bearing shoots, equally from the bottom to the extremity.

Having therefore in the fummer pruning the above-mentioned trees, trained in an abundant fupply Supply of the well-placed shoots at full length for next fummer's bearers, as they must never be shortened in their summer's growth, for the reafons already shewn, and that in the general winter pruning, having selected a sufficiency of the eligible shoots for bearing, it is adviseable to shorten them mostly less or more, according to their strength and fituation, thereby to force out collaterals the enfuing fummer, regularly, both from the lower and middle, as well as from the remaining upper buds; but which, without the precaution of shortening, would generally push their successional collaterals mostly from the upper eyes, and that by the shoots from year to year coming out princi-pally only towards the upper parts of the mother horizontals, there would be danger of leaving the lower half or more of the tree unoccupied with a fufficiency of proper shoots annually, for successional bearers, as is requisite in all these kinds of trees, which bear on the yearling wood only; but being treated as above, they push out from most of the remaining lower eyes the following fummer; at which time, making choice of the best for future bearers, always training them mostly at full length all fummer, as far as you have room to extend them, and shorten them only in winter pruning; except in vacancies when strong shoots of the year may be pinched, or pruned down to a few eyes in May or June, and will furnish collaterals the same summer to chuse from in winter; but otherwise permit all the shoots designed for a choice of succession bearers to be always layed in entire till winter, as aforefaid; except in vines, which shooting very confiderably in length, may fometimes be cut a few joints above the fruit in the middle or end of July, &c.

Thus ,

Thus far observed, take the following hints, respecting the rules for shortening the different

species of trees.

In winter pruning of vines, the shoots should be generally cut to from three or four to five or fix eyes or joints in length, according to their strength, or the space of room there is to train the summer's shoots, leaving the strongest shoots the longest; or where there is a wide scope of walling upward to cover, may leave the shoots longer in proportion; generally perform the shortening just above an eye with a sloping cut

upward.

Likewise in the winter pruning of peaches, nectarines, apricots, &c. the fhortening should be performed more or less, according to the strength of the trees, and that of the shoots; the strongest growers to be shortened less in proportion than those of weaker growth; and generally in young trees in their first training, the shoots may be cut shorter the first and second year, to procure a sufficient supply of laterals to furnish mother branches, to give the head its proper formation; aftewards, the general shortening is to be performed nearly in the following proportion; the weaker and middling shoots may be pruned to from about fix, eight, or ten, to twelve or fifteen inches, and the stronger growths from about fifteen or eighteen inches, to two feet long, or more; and vigorous shooting trees should have the shoots left longer in proportion to expend the luxuriant fap in the extent of wood, till they become moderate shooters, than treated in the common way, as above.

In shortening these kinds of trees, that as they produce the blossom buds immediately from the eyes of the young shoots, as already explained, appearing conspicuously in winter

winter and fpring, observing in those shoots defigned for succession bearers, that after chuling the best furnished with blossom buds, and if any produce them mostly towards the top, be careful not to shorten them below all the said buds, as it would be cutting away all the fruitful part of the shoot; but casual weakly shoots in vacancies may be pruned short, that they may produce stronger ones next year, to furnish the space required; observing in the general shortening to prune the shoots just above an eye, either to a wood bud eye, or to a bloffom bud, having also a shoot bud at the same eye, if possible, to furnish a leading shoot at that part, which proves of great advantage in drawing nourishment freely the whole length of the mother horizontal, to supply the

fruit more adbundantly.

In fuch trees which bear on the feveral years branches, upon spurs; as in apples, pears, plums, cherries, &c. no general shortening of the shoots is to be practifed, but mostly extended at full length to their extreme limits; for shortening in these kinds of trees would force out lateral wood shoots, and prevent the formation of fruit spurs in the main bearers, fo that shortening is only to be practifed occasionally; such as in the first formation of the tree, by pruning short the first shoots, in the first or second year of their training, when being pruned to five or fix eyes, either the same year they are produced, in June, or in spring following, they will furnish lower laterals for horizontals, to form the head; afterwards train the general shoots of these trees always entire. and only shorten occasionally by pinching or pruning any particular shoot in vacancies, either the young shoots of the year, in summer, or the year old shoots in winter pruning, to furnish collaterals for a farther supply of horizontals or bearers.

bearers, where necessary, either in any present vacancy, or where one is likely soon to happen, or as a reserve in the lower parts, in order for training gradually to a bearing state, between the old branches, to supply the place of any wornout bearer, that may casually occur.

But in all young fruit trees in their first training, shortening more or less is necessary, and the shoots pruned shorter than in their advanced growth, in order to gain a good supply of lower laterals, to form a proper spread of mother branches below, as a foundation to furnish the

head regularly upwards.

Thus observing in trees of a year old, if budded, the first shoot from the budding should be pruned wholly down to five or fix eyes, either the same year its is produced, or in spring after; and in grafted trees the shoots cut each to three, four, or five eyes, according to their length and substance; and thus the shoots both of budded and grafted trees will push out laterals from each remaining eye the same year, rubbing off all those that advance before and behind the stem and branches, reserving only the side ones, to train in horizontally for the sirst mother branches, and some as first bearers.

Observing, if by means of this sirst shortening, the young tree proceeds with two, sour, six, or eight good branches of nearly equal strength, let them be trained with an equal number to each side, six inches distance from one another; or if it shall seem necessary, may prune short some, or all of them, to gain more branches; especially if the present number is no more than two or sour, may shorten them to sive or six eyes; or if six or eight branches, may leave the lower ones the longest, and prune short the middlemost to

a few eyes; and thus they will furnish a plentiful supply of more shoots, which being regularly trained, will form the head of a tolerably handsome spread of branches, proceeding immediately from within a little of the bottom, sufficient for its first proper formation as a wall

and espalier tree.

When by this practice of pruning short the two first years shoots of young trees for walls, &c. you have procured a proper spread of mother branches below, they will readily furnish a farther eligible supply to fill the wall and espalier regularly upward, as I before observed; and in which case, the shoots are not to be pruned so short as in the first two years; and in some trees not at all, as in most of the spur bearing kinds, as apples, pears, &c. only to some particular shoots in casual vacancies, as already explained on former fimilar cases; but in many of the trees, bearing on the yearling shoots, as vines, peaches, nectarines and apricots, the shortening the annual fupply of successional bearers, must be generally continued more or less in the winter pruning, for the reasons formerly laid down.

Sometimes in goosberries and currants, false pruners practise the operation of shortening the requisite supply of annual shoots in general, often too, cut them so short, that they throw out thickets of useless young wood, hurtful both to the trees and fruit, and require much pains and trouble to prune them out in winter; for which reasons I should advise to shorten them but little, or not at all in those trained against walls and in espaliers, unless when they extend beyond their proper limits, or above the top of the wall; especially as, if not much shortened, they will furnish numerous small, lateral fruit-spurs, and the same branches continue

fruitful several years upon the said spurs.

Nor,

Nor, for the same reason is it adviseable to shorten standard goosberries and currants, but only very moderately, or not at all when they have full scope to extend themselves, especially goosberries; indeed where it is necessary to confine the heads within moderate compass, shortening the terminating shoots of the longest branches may be proper; but not those below, till they advance in growth, and begin to shoot out of bounds.

Raspberries likewise admit of shortening, and is sometimes necessary and serviceable, when the shoots are very long, and bending at the top; cutting them down in winter a little below the bend, if any, or to about a yard, or three seet and a half, or a little more or less long, accord-

ing to the strength of the shoot.

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Figs do not admit of shortening the shoots in the general course of pruning, because as they commonly bear the fruit mostly towards the upper end of the shoots, shortening might destroy the principal fruit bearing parts, besides causing a luxuriancy of wood, so must not be shortened; only casual decayed ends of shoots, or to pinch any young shoot below in a vacant part, in fummer, if needful to furnish a better supply of shoots to train up between the main branches, to have every part filled with fuccession bearers, as they bear only on the year-old wood; or to be ready in training to supply the place of any old, long, naked branches upward; but except in these cases occasionally, practise no shortening of this tree, and let the general supply of annual shoots for bearers, be retained always entire.

The same practice is to be observed in mulberries, medlars, quinces, berberries, and all the nut-bearing trees; none of all these require shortening, nor admit of it successfully, in the common process of pruning, and is only to be practised to some particular shoot, where

needful,

needful, either to form the head in the first trainsing, or to fill any wide vacancy more expeditions and effectually; otherwise let the whole

extend at full length.

When, however, the branches and shoots of any kind of wall and espalier trees have reached be, yound their respective limits, either at top of the wall, &c. or on the sides, shortening will be necessary, without exception in the extreme branches, either by pruning the terminating shoots more or less, more especially in trees in which shortening is applicable, or cut part of the mother branches down in winter to the first best shoot, &c. it supports, and that its extension is within the proper limits; for large branches should not be shortened off to a naked stump, but either made to terminate in a shoot, if possible, as above, for a leader, within the proper bounds, or end in an eligible

well-formed fruit spur or wood bud.

But many pretended pruners, who never trouble themselves about the nature of bearing and shooting of the different forts of fruit trees, make little or no difference in the operation of pruning, but often make it a rule to cut and shorten the shoots of all without distinction, and often so severely at random, that the trees produce hardly any thing but barren wood, and disagreeable stumps; and how mortifying it must be, to have trained up a wall tree for several years, and at the time when it might be expected to have arrived at perfection, it still exhibits a state of rude growth and unfruitfulness, and there are too many who experience this cruel mortification, and whose example may teach others to avoid it; and by attending to the methods we advise, will remove all these inconveniences; for it is notorious, that the operation of pruning being entrusted to ignorant H 3

performers, who do not confult the nature and the state of the trees, and the mode of pruning to pursue accordingly, are always sure to do much mischief; and more particularly in the article of severe shortening.

Regulating Rambling Shoots.

NDER this description is comprised such strong or vigorous rude growing shoots and branches that affect a luxuriant extension of growth, shooting out considerably longer than all the others of the fame tree, in a rambling, irregular manner, or in any contrary direction; and which in both wall, espalier, and standard trees should be occasionally regulated, or reduced to order in the process of pruning, either by retrenching entirely fuch very long irregular ramblers, or fhorten them down to some commodious lower shoot or lateral branch, confistent with the general expansion; or if rambling shoots of the year, may prune them more or less the same summer, to preserve some regularity in the general form of the head; but in the older wood, perform the regulation principally in winter pruning.

Be careful, however, where any main branches assume this rambling state, not to stump them off to naked ends, but pruned down either to some moderate lateral shoot or branch they support, so as the main branch still terminates in a leading shoot, where practicable; or if not, to a fair fruit spur, or wood-bud, &c. agreeable to the general rules of pruning. See Leading Shoots, Shortening

the Shoots, Sc.

When rambling growths confift mostly of luxuriant young yearling shoots, they if of lateral production from the sides of the mother branches, should be cut out close to the bottom, or if terminating shoots, and if they ramble greatly out of the regular spread, may prune them more or less, as may be required, or shorten them to any lower-placed lateral shoot, of their own, if any; and which is within the proper bounds; or in default thereof, to any well-placed bud, consistent with the regularity of the general branches of the head.

Regulating Straggling Shoots.

Py the appellation straggling shoots, is comprehended, principally such as affect a long, slender, dangling growth, straggling irregularly in a loose manner from the course of the general shoots, and being often of a feeble nature, with long joints, are not so eligible to retain, either for furnishing a supply of wood or for bearers, as those of a more robust and regular state; and therefore where there is abundance of more eligible growths, it is proper to cut the stragglers clean out; except any rise in a vacant part of wall trees, &c. destitute of better shoots, may prune them to two or three eyes, and will thereby probably furnish a supply of regular shoots proper for training.

In standard trees likewise, there are frequently long slender shoots and branches, straggling in a dangling, irregular manner out of the regular form, and often unable to support themselves, hang trailingly downward below the rest of the branches, or straggle across the others in their neighbourhood, or aukwardly across the middle of the head in a disorderly way, creating much irregularity, and for the general part should be retrenched; either cut quite out, or shortened down to any lateral shoot or branch of a more regular and robust growth, as directed in the Rambling Shoots.

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Regu-

Regulating crowding Branches.

ROWDED branches are applicable both to wall, espalier and standard-trees, being properly of the superfluous class, (see superfluous shaots) confisting both of yearling shoots, and older branches; which being such that are so confiderably too numerous and close together, that they crowd and impede one another in their general growth, as well as cause great irregularity and confusion, and should be reduced to due order by proper pruning; fo as to continue the general bearers in wall and espalier trees particularly, full five or fix inches afunder, or even double that, in vines especially, to have full scope to train in the bearing shoots in summer; and in standards, the main branches, if crowded, should be thinned so as to stand distinct and clear of

one another, as explained below.

In wall and espalier trees, numerous more shoots are produced every fummer than are wanted, or can be trained in without crowding one another exceedingly, and proving very injurious both to the regularity and prosperity of the trees, as well as detrimental to the crop of fruit, which in too crowded trees, will not only be fmall and ill grown, but of inferior beauty and quality; and on which confiderations, great regard should be had to observe a proper regulation both in the fummer and winter pruning; first in the fummer dreshing, to prune out all the too crowded and evidently useless shoots of the year, and lay in a proper, moderate supply of all the regular productions at full length till winter pruning; then should make a general regulation where necessary, both by thinning out the superabundancy of the last fummer's shoots, and also part of the old

wood, if it is any where too crowded, so as to leave the general regular branches, or bearers, not closer than five or fix inches distance, or if fix or eight, the fruit will always be larger and

fairer in proportion.

So that in summer, when the shoots of the year in wall and espalier trees are too numerous and crowded, let all the most irregular and unnecessary be early retrenched, remarking, as we above observed, to leave a general supply of all the most regular ones in trees bearing on the young wood, and sewer in proportion in trees which bear several years on the same branches, retaining only a sufficiency of the very best to chuse from in winter; and what are not then wanted, must also be retrenched.

In the winter pruning, where the shoots remain too crowded by being retained abundantly in fummer for the general supply, you must now cut out the most irregular and crowded, retaining only, in trees bearing on the young wood, one or two of the best on each of the former year's bearers, and part of the old cut down to the first or the uppermost shoot, so as to admit of full scope to train in the general supply for next year's bearing, at not less than from four to five or fix inches distance; though in figs eight or ten, and in vines ten or twelve inches afunder is eligible; shortening those of the peach, nectarine, apricot, and vine, as formerly explained and directed under the article Shortening the Shoots; but leave the figs entire; and in the spur bearing trees, the fame branches continuing many years fruitful, retain only here and there a good fide shoot below in any vacant space, if any, either for a present supply, or to train up in readiness to replace bad branches, and cut out all the rest close to the mother branches, which should stand fix or eight inches afunder.

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For in wall and espalier trees in general, we should be particularly careful to keep the general bearers from being crowded, there being a particular advantage in every one's power by keeping the branches moderately thin, to obtain

large, beautiful, and rich-flavoured fruit.

It must therefore be observed, that where the main branches of wall and espalier trees are too crowded, having been trained only about three or four inches afunder, instead of five, fix, or eight, &c. as is requisite in the larger kinds of fruit particularly; we ought not to hefitate about enlarging the distances, by cutting out, in winter pruning, the most irregular and crowding wood, fo as to admit of arranging the more eligible branches at the proper distances above mentioned; for, when too thickly placed, there is neither sufficient room to train in a successional supply of fruit shoots in summer, to chuse from in winter where needful, nor will the fruit be fo large, beautiful, or well flavoured, as where the branches are laid in thin and regular; it should therefore be regulated by thinning out the most crowding, ill-placed, irregular, and most unfruitful of the superabundancy in winter pruning, either by cutting them down close to the bottom, or to the next best-placed branch; leaving the eligible branches not less than five or fix inches afunder, when ranged regularly to the wall or espalier; though the main branches of figs should be eight or ten inches distance; and vines ten, twelve, or fifteen, &c.

Likewise in standards, both tree and shrubkinds, crowding branches arise in various directions, creating great disorder, and prove very detrimental to the prosperity of the tree, both in its general growth, bearing, and goodness of

the fruit.

So that where the head of fuch standard trees and fruit shrubs are too full of wood, it is highly incumbent on us to thin out the superabundancy in winter pruning, for it is of much importance to keep the branches moderately thin, to admit the sun and air freely in summer; let therefore all the irregular crowding growths of the general branches be discretionally thinned, which can be the most effectually performed only in winter, cutting the irregularities down, either to where they originate, or to any convenient lower branch they may support; so as the general bearers stand detached from one another, in somewhat regular order.

And also frequently in standard trees, many crowding shoots arise erectly in the middle of the head, like suckers or stems, proceeding sometimes from the top of the main stem or trunk, and sometimes from the upper side of some large boughs, and if suffered, would grow to a perfect thicket, and prove both extremely hurtful and unsightly; they should therefore be always carefully displaced as soon as possible, pruning them close to the very bottom.

Useless and unnecessary Shoots.

In wall and espalier trees, there come under the denomination of useless or unnecessary shoots, not only all the ill-placed, irregular, and bad growths, &c. but also such regular and well-placed shoots that are superabundant, or more than are wanted or can be trained in; and therefore when we speak occasionally of the useless and unnecessary shoots, the above sorts are to be understood, and should be all removed as early in their growth as possible, or are discoverable from the necessary and useful

useful productions. See irregular and superfluous Shoots, &c.

Regulating cross-placed Branches, Ge.

ROSS-PLACED branches and shoots are such that affect a contrary direction, running cross-ways the adjacent regular branches in an aukward disorderly manner, creating confusion in the head, and often prove hurtful, particularly in standard trees, by riding across the neighbouring boughs, rub and gall the bark, by the motion occasioned by the wind, as well as often occasioning a too crowded growth, and should be timely redressed, by cutting them close out to their origin, without reluctance,

as being both irregular and hurtful.

Such irregular growths are generally best retrenched in winter, when the irregularities will be the most discoverable, and is the most proper section for cutting out large wood; at which time, examining fuch trees whose heads appear crowded or confused, and if any cross-placed boughs appear, that either grow cross-ways their neighbours, or extend cross the middle of the head, let them be cut clean away, fo as all the main branches stand regular, distinct, and clear of one another, in which the head will not only appear more regular and agreeable to the eye, but the main bearers being disencumbered from the disorderly and hurtful growths, thereby having full scope to spread free and easy in a regular manner, enjoying an equal benefit of the fun and air, they will consequently continue longer in an eligible state of abundant fruitfulness, and bear in a greater degree of perfection, in regard to the fize; beauty, and goodness of the fruit.

In wall and espalier trees also, if any branches have been trained erroneously across the others, they should be regulated without the least hesitation, by either totally retrenching them, or if they are wanted to fill a vacant space, and can be brought back to a regular position, they may be retained and arranged in a parallel direction, consistent with the other regular branches; suffering none to arrange across their neighbours, but all parallelly extended one beside another at regular distances.

Barren or unfruitful Wood.

In most fruit trees, barren and unfruitful wood will casually occur, either by the trees affecting a natural bad habit of growth, or through age, infirmity, luxuriancy, weakness, or false pruning, which latter cause often occasions unfruitfulness, more than may generally be imagined, and this barrenness is incident both to young and old trees, either generally or in particular branches, which should be carefully examined into in every general winter pruning, both to remove such infertile growths to make room for better, and to prune so as to prevent others becoming of the same unfruitful state, and to keep the trees always well filled with prolific branches, and disencumbered from all unfruitful and hurtful growths.

Barrenness occurs variously in all forts of fruit trees in every stage of growth, occasioned through different causes both naturally and by bad management; in the operation of pruning particularly; and often prevails, both in trees bearing on the young wood, and those which

bear on the feveral years branches.

In trees bearing on the young wood of a year old, as in apricots, peaches, nectarines, figs, and

and vines, &c. barrenness often occurs, both in the mother branches, and in the young wood; the mother branches often, either through age or ill pruning run up naked without furnishing a proper supply of eligible young wood for succession bearers; and in which case, if advanced towards the top of the wall, should be pruned down in the winter pruning, to the first good shoot below, or any young mother branch furnishing proper bearing wood, in order thereby to admit of more room to train the eligible young bearers with proper regularity; and in the young shoots likewise, part of them often assume an unfruitful growth, not furnishing blossom buds, either by being of too vigorous shooters, deformed, unkindly, rude growth, or of a weakly, infirm state, which state of barrenness in the young wood appears very conspicuous in the winter pruning; in the peaches, nectarines, and apricots particularly, by discovering the bloffom buds immediately at the eyes of the shoots, that are proper to retain for bearers; and the barren shoots or those unfurnished with a proper supply of blossom buds, being easily distinguishable, are to be cut out in proportion, in the general pruning, in winter or fpring.

But in the fig and the vine, the barren shoots are not so discoverable, the blossom buds not being conspicuous, as in the above mentioned trees; so can only observe, that barrenness is more likely to prevail in the long, slender shoots, having the joints. remote, than in those of a more robust growth.

However, in all the above-named trees, bearing on the young wood, you will observe both of the mother branches and the young shoots, to clear them of barren wood, as it casually occurs; and continue young shoots, advancing from the bottom in readiness.

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In winter pruning them, examine the old mother .. branches; if any advance long and naked, barren of good bearing shoots in proper places, cut them down, either to the bottom, if they support no fruitful branches or good shoots below; but if they furnish lower side branches, having young bearing wood, or have pushed out any good lateral shoots, prune them down, either to the first best branch or shoot, as shall appear the most eligible, so as to continue every part equally filled with bearers, for which, room must always be made, by carefully retrenching the barren old wood in the winter pruning; likewife at the same time on examining the young wood, let all such as assume a barren or unfruitful state, by the rules before suggested, be pruned close to their origin, unless any are required to be retained for want of better, to furnish vacancies: especially in the lower parts of the tree, which should always be well attended to, as we before observed, by having young wood advancing between the main branches, in readiness where wanted; being careful to referve always the most promifing shoots for next year's bearing, retaining generally but one, or fometimes two on each last fummer's bearer; or occasionally, in wide vacancies, may leave three or more, as the case requires, observing that where only one shoot appears sufficient to reserve on any former bearers, leave the best of those towards the lower or middle part, and prune down the parent branch thereto; or if two or more shoots seem proper to retain, leave one below, and the other towards the upper end of the respective mother branches, on opposite sides, where practicable, cutting out the intermediate ones, if any, and prune away the upper part of the faid branches down to the first best upper shoot; or where any fuch shoots, of a proper

growth to retain, are cafually fituated at the termination or end of any mother branches, the latter must consequently remain entire, and the terminating shoot thereof forms the leader; but in all other cases, where all the shoots that are judged proper to retain are placed lower on the mother branches, or that none of proper growth are placed immediately at the extremity, the faid branches must always be pruned down, more or less, either to the best upper, middle, or lower shoot, as the case requires, by the rules above explained; and thus proceed in the winter pruning, throughout the general branches, in all these fort of trees, both in retaining the requisite annual supply of successional bearing shoots, and at the fame time pruning out the superabundant ones, and fuch part of the old bearers, as is necessary in these kind of trees, to make room to train the succession bearing wood, at proper distances, without crowding, and thereby always have all parts of the tree equally furnished with fruitful branches, advancing in progressive order.

In trees bearing on the feveral years branches, upon fpurs, as apples, pears, plums, cherries, &c. barrenness occurs also in various ways, fometimes by the branches affecting a fingular luxuriancy, running exceedingly to wood, and furnish hardly any proper fruit spurs; and in which case, in the general branches, that in order to check and expend this too exuberant nourishment, it is advisable both to arrange the branches as much horizontally as possible, and train them in thicker or more abundant than in the common way, in proportion of three to two, or more, by laying in an additional supply of the ftrongest young shoots, and all the shoots and branches extended at full length; or if only some particular branches assume this luxuriant unfruitful growth,

or any other barren state, and that they occupy places, where some other contiguous lower branch of a more sertile growth may be more eligibly employed, let them be cut down in winter pruning, either to the bottom, if it appears necessary, or to the first good lower branch, as above, proper for training in the place of that cut away; and if any good shoots push out in vacancies below, train them up between the main branches to be advancing to a bearing state, to be ready when wanted.

Or sometimes in these kinds of trees, sterility happens entirely through means of erroneous pruning, often both by severe shortening of the young wood and general branches, thereby forcing out lateral wood shoots at the eyes, where fruit spurs would have naturally formed themselves, whereby the tree is continually crowded in summer with

ufeless wood and little or no fruit.

Likewise in the same sorts of trees, barrenness is often occasioned by the operation of pruning out the superstuous annual wood arising laterally from the mother bearers; that instead of cutting the shoots close off, prune them to stumps of an inch or two long, which fills the branches full of wood stumps, sending out innumerable useless shoots annually, and but few or no fruit spurs

for bearing.

Thus by these different causes, barrenness being frequently incurred in the above mentioned spur-bearing trees; the only remedy for such state of unfruitfulness is, in winter pruning to cut off close all the most irregular of the aforesaid barren wood spurs, together with part of the most ill-formed, unfruitful old branches, where others of a more favourable state, or any previously trained young shoots, advancing from the bottom, are ready to supply their places, cutting them

them either wholly down, or to the first more eligible branch, &c. which train in entire; keeping other young ones advancing below where it appears necessary, in wide spaces between the older branches, to a bearing state, ready to supply the place of barren wood; being careful always to extend the general branches, both present bearers and those in training, at sull length, or with each its leader entire, as far as they have room to extend; and let all supersluous and irregular shoots necessary to be retrenched, be always pruned close off to the mother branches; by which practice you will have all the branches well surnished with fruit spurs, and the trees universally fruitful.

Likewise, in fruit trees in general, barrenness often happens in those far advanced in age, by some of the branches casually affecting an infirm or worn-out flate by long bearing, neither producing good shoots proper to train for bearers, nor eligible fruit spurs, and want to be replaced with young bearers; in which case, if any strong young shoots push out below, they should be occafionally trained up between the main branches, or that any young branches are advancing from the lower parts arrived to bearing, cut out the barren wood by degrees, in winter pruning, arranging the young in its place; for it is eligible in very old trees to have some young wood previously advancing from below, between the mother branches, and when arrived to bearing, gradually cut out the casual barren wood.

Frequently in old spur bearing trees, there will appear here and there large worn-out fruit spurs, exhausted with long bearing or bad pruning, not surnishing blossom-buds, which coming under the denomination of barren wood, they should also be pruned out close, to give room to the

the more fruitful ones, and for new ones to form in their stead; likewise some times very naked and ragged, or cankered spurs casually occur, assuming a barren state, and should be retrenched; or such parts of any old spurs, that have become long naked, cankery, and unfruitful, should also be pruned down to any eligible lateral blossom

or fruit bud, if they furnish any.

Sometimes old wall and espalier trees, either through great age, and long bearing, bad culture, or bad habit of the tree, infirmity, or other cause, become barren almost throughout the general branches, not furnishing any fort of good bearing shoots or fruit spurs, nor likely to be restored to a good state of bearing, without a general renewal of wood; and that the trees being still in tolerable health, capable of fur-nishing young shoots, they may be recovered and brought to bear well for many years longer; in which circumstances, we should endeavour to renew them with fresh bearers, either by having young shoots previously in training from the bottom and lower parts, a year or two, or more, between the main branches, and when arrived to bearing, cut down the barren wood, and train in the other; or in default of this, the general branches may be headed down to any young shoots pushed out below; or in want of these, head the branches wholly down within a foot or half a yard of the bottom in winter pruning; especially in apples, pears, and other foft woods, which break out more freely in the old branches, than in most of the stone fruits; some of which, with difficulty, forces the fap through the hard bark, and fometimes are apt to gum by large amputations, when performed on the large branches; especially cherries and plums; however, it is worth the trial on all forts where the

head is quite worn-out, and those which succeed will break out freely into many strong young shoots the following summer, which train, agreeable to the rules before explained, according to their order of bearing, and they will form a new head, and soon commence eligible bearers.

It is of importance in all wall trees in a declined state of bearing, to pay good attention to the lower parts, sometimes good shoots often push out that may be eligible to retain for training up between the branches for bearers, to supply the place of casual old barren wood, as above.

Barrenness sometimes proceeds from the blight, or insects, incident to fruit trees, when suffered to overspread them considerably in summer; but as this happens more frequently on the spring and summer shoots, should carefully attend to their early growth; and more particularly in the trees which bear on the young yearling wood; noticing when any of the shoots are but ever so slightly touched with this imperfection, it is proper both to pull off the worst of the leaves thus attacked, and let the insected part of the shoots be immediately pruned down to the healthful wood, to prevent the disorder from spreading; or if any blighted parts have been omitted in summer, let them be cut clean out in winter pruning.

Sometimes also barrenness proceeds from some distemper in the root, occasioned either by the soil, or the bad habit of the roots, or the attack of some subterraneous malady, or obnoxious vermin; and if therefore a tree appears sickly, open the earth widely around quite to the roots, without disturbing them, removing any bad soil; and if any vermin are discovered, let them be destroyed, and let any decayed, or cankered parts of the roots be cut off to the quick, and tip the ends of the others, by cutting them

offsloping underneath; also removing the old earth quite away, without entirely loosening the general roots, and replace it with fresh compost, which settle about the roots with a pot or two of water poured down; by which practice, a tree not quite worn-out with age, &c. will often be restored to

fertility, and shoot freely and bear well.

Sometimes the gum attacks the branches of stone-fruit trees particularly, and renders such branches less fruitful, and sometimes wholly infertile, or entirely kills them, if not prevented in time; where therefore the gum has attacked the upper part of the branch or shoot, it should be timely cut down below the infected part; or if a branch is considerably injured therewith, cut it either clean out, or down to the next healthful branch.

Reforming luxuriant or vigorous Trees, and their Management.

In wall and espalier trees, sometimes by false pruning, or a natural bad habit of growth, a general luxuriancy prevails throughout, producing most of the shoots of a very luxuriantly woody, unfruitful nature, considerably more vigorous than the generality of trees of the same fort commonly do, running exceedingly to wood, without producing any tolerable crop of fruit; some often producing shoots like walking sticks, totally unfit for bearing, or to train in for any purpose; and trees of this rude, luxuriant habit, are always much longer before they attain a good bearing state, than those of a moderate or middling strong growth.

Trees of a fingular luxuriant state, require a peculiar mode of pruning and training to reduce them to due order, so as they may shoot mode-rately and commence eligible bearers; essential

by first retrenching all the rudest growths, then training in the general regular shoots and branches thicker than the common rule, in proportion of three to two or more; and extended pretty much horizontally, mostly at their utmost length, or but very moderately shortened; even in trees where shortening is necessarily practised; as in peaches, and most others of that tribe, which bear on the young yearling shoots; and in the spur-bearing trees, never shorten them at all; that by leaving the branches thicker and longer, the too exuberant sap, or redundant nourishment, may be dispersed and exhausted in a larger extension of wood, in which it will not be apt to break out vigorously, as in a less considerable extent of branches; and the more horizontally they are extended the better, as this position contributes also exceedingly towards checking the luxuriancy.

This general luxuriancy happens fometimes

through excess of nourishment, and sometimes by an ill habit of the tree; also often by a too fevere shortening of the strong shoots, as practifed by ignorant pruners, whereby the luxuriancy is often confiderably encreased in the quantity of rank, infertile wood; erroneous and fevere pruning always does confiderable mischief in luxuriant trees, particularly in forcing them to push out a great quantity of rank, unfruitful shoots, and but few of a moderate growth, proper for bearers.

It being very frequently the practice with false pruners, who, as we have before remarked, work without troubling themselves about future consequences, that when a wall and espalier tree throws out abundant luxuriant wood, and bears but little. they prune all the strong shoots short, thinking thereby to reduce the tree to a moderate state of shooting, and form it for bearing; which, however, is generally productive of the contrary effect, for

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fevere shortening encreases the luxuriancy more considerably, promoting a great redundancy of vigorous wood shoots, and exceedingly retards the tree in bearing; for while a tree is thus continued in a state of general luxuriancy, encouraged in a vigorous shooting annually, by severe pruning, it never will form a tolerable bearer.

The only method therefore to manage a luxuriant wall and espalier tree is, to indulge them in some respect in their natural growth for a year or two, by laying in the shoots thick and well extended in length, and as much horizontally as the scope of walling, &c. will possibly admit.

For example: In all trees bearing on the young wood, first cutting out all the very rank growths; both in summer and winter pruning, and then retaining as many of the more moderate and regular-placed shoots, as can be commodiously trained in with due regularity, making an allowance betwixt the summer and winter pruning; arranging the whole at full length all summer, and let them be but very moderately shortened in the general winter pruning; the more vigorous ones not at all, and carefully extend them as horizontally as you can, to check the superabundant sap, as much as possible, in ascending with such luxuriancy.

Thus in a year or two, by the above care, in trees bearing on the young wood, they will generally commence moderate shooters, and the shoots assume a fruitful state; then are to be ma-

naged in the common way.

Likewise in trees bearing on the many years wood, upon spurs, if luxuriancy greatly prevails, be careful, both in summer and winter pruning, always to retrench all the very rank broomstick shoots, which sometimes occur, and which, together with all such other too luxuriant and ill-

placed yearling wood, and too abundant shoots, necessary to be retrenched, should be all cut close to the mother branches; retaining the requisite supply of regular shoots and general branches rather more abundant than commonly practised in trees of a moderate growth; and let every one be well extended at their natural length, both in summer and winter training, and arranged pretty much horizontally, as before noticed; in which they are not apt to push so vigorously, as the more upright trained branches.

But sometimes in luxuriant trees, it may be of utility to retain some of the most luxuriant shoots in particular parts in summer, to draw and exhaust the too abundant nourishment, and prevent the rank luxuriancy taking place in the general useful branches; and in winter pruning, may cut them either close out, or shortened down to two or three eyes, to answer the same purpose the future summer; afterwards cut off close to

their origin.

By practifing nearly the above methods in pruning and training luxuriant wall and espalier trees, it will prove the only expedient for reducing them to a moderate growth and good order of bearing; for the redundant nourishment being divided and expended among a greater number of branches well extended in length, in a horizontal direction, they will gradually become moderate shooters, and by degrees form proper bearers; after which manage them agreeable to the general method of pruning and training, as the different forts of trees require, according to their order of bearing, nature of shooting, and general habit of growth; always leaving the bearers thicker in vigorous trees, than in more moderate growers; and in trees where shortening is necessary, always thorten the strong shoots

less in proportion than moderate shoots, and the weak shoots-pruned shorter than the middling growths; but in the spur-bearing trees, always extend the bearers mostly at full length, as far as the allotted extent of walling, &c. will admit.

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Sometimes a tree is luxuriant only in some particular shoots here and there, which shoots may in some cases prove hurtful, in others be converted to use; observe their strength and fituation, such as are of the rankest kind, should be generally cut out from all parts; and in short most others that greatly exceed all the general shoots in fize and strength, unless you want any to fill a vacant space, or prevent one, and there is no other, in which case pinch or prune them off to a few eyes in June, and it will furnish four or five of more moderate growth to chuse from, as observed in former instances; or sometimes any occasional luxuriant shoot may be retained in fummer, to draw off the too abundant fap, where there is danger of luxuriancy prevailing in the adjacent bearers; but where these straggling luxuriants are not wanted in any of the above mentioned circumstances, cut them clean out wherefoever they appear, both in the fummer and winter pruning.

In young trees under training, if one fide pushes luxuriantly, the other moderate or of a weakly growth, it is eligible to reduce the number of luxuriant branches on the strong fide, to render both sides near equal in the quantity of wood, that the sap may divide itself regularly, and both sides of the tree be brought to advance equally and regularly together in number

and strength of branches.

But if the young tree advances with only one luxuriant shoot on one side and weak ones on the other, it is adviseable to prune out the weak growths and shorten the luxuriant shoot to six or eight eyes, and train it upright like a stem, it will thereby push out laterals from the remaining eyes of a more moderate and equal growth, proper to arrange equally to both sides, to give the head a regular formation in strength and number of branches.

Or where both sides of a tree is luxuriant, but that one side have a greater number of strong shoots than the other, they should also be reduced to some degree of equality; otherwise the fullest side will attract the principal sap, and

create an inequality of growth.

If in young trees, two or three luxuriant shoots arise all on one side, and no shoots at all on the other, should retrench them all to one, and that shortened to a few eyes, and trained upright, and it will probably send forth shoots

equally next feafon.

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In all trees, however, already more or less trained, either in young or old trees, let it be a general rule in those of a luxuriant growth, never to prune or shorten the shoots severely that are proper to train in for bearers, if you would have them foon acquire a fruitful state; besides some fruit trees agree very ill with pruning the shoots at any rate, that are necessary to train for bearing branches; and much more fo, if very luxuriant; but particularly in apples, pears, plums, cherries, currants, and all other four-bearing trees; as also figs, as formerly observed; as the more the luxuriant wood is shortened, the more it would encrease the luxuriancy in the future shoots, and no fruit spurs; even in trees where shortening is commonly practifed, as in peaches, nectarines, &c. it in cases of luxuriancy, should always be very moderately performed, and the more luxuriant shoots hardly at all; and by obferving this for a year or two, the trees will, assume a moderate growth, and bear well.

Weak or infirm Trees, the particular Order of pruning them to recover Strength; and of ordering the Roots, to produce a more vigorous Growth.

COME wall and espalier trees, &c. assume a weakly, infirm growth, making weak trifling shoots and small twigs of a feeble, dangling growth, arising in different parts both of the old and young wood, and are rarely well calculated, either to train in for mother branches, or for immediate or future bearers, and therefore when a tree affects this very infirm state throughout, should felect only a thin supply of the best of the weak shoots, and let the very infirm, feeble growths, for the most part, be pruned out as ufeless, both in summer and winter pruning; unless any of them are wanted in default of better, to fill a vacancy, or to retain to prune upon to two or three eyes to furnish stronger wood where a vacancy is likely to happen; in which cases some of the best contiguous ones may be retained, the rest cut out; and thus by retaining only the best of the weak shoots, and those thinly placed, the tree will gradually acquire a stronger state.

So that in general, all remarkable weakly infirm shoots, and dangling small twigs in walk and espalier trees, are principally to be considered as improper or ineligible for training in; except in cases where there is not a sufficiency of others, and that a supply of shoots are necessary, either generally, as in trees bearing on the young wood; or only in particular parts occasionally, as in the spur-bearing trees; when a requisite supply of the best of the weak shoots must be retained in proportion, according to the

order of bearing of the respective trees, and all

But in trees abundantly furnished with eligible strong shoots, the weak, feeble, dangling growths are generally to be rejected; except, as just above observed, any shall appear neceffary, either to fill a present vacancy, or be of fervice hereafter to prevent one, when fuch as feem necessary may be occasionally retained; especially towards the lower parts of the tree; and if required to furnish more wood, may be pruned to two or three eyes, in order to obtain one or two ftrenger shoots in summer to chuse out of in the winter pruning; others may be more moderately shortened; and others sometimes left entire; especially in the spur-bearing trees; but when not wanted as above, cut all the very weak shoots clean out.

Or fometimes in pruning out these weak shoots, may cut some of the best-placed down to the lowest eye, in particular parts of the tree; especially in trees bearing on the young wood. to furnish each a good shoot next summer, in case of vacancies; and if not wanted, the following winter, may either cut the whole clean off, or pruned down, as before, as a referve, in case of any

unforeseen vacancy.

In most trees bearing on the young yearling wood only, as peaches, nectarines, &c. fome of these weak shoots may be attended to occasionally to good advantage in particular parts of the tree; fuch as when they arise in naked parts of old wood, where a supply of young is necessary, and that one or more of the best of which being retained in the vacancy, and pruned upon to two or three buds, as above, they will furnish the like number of laterals, and that being occasionally repeated, where it shall seem necessary,

may thereby more effectually keep every part well furnished with eligible young bearing shoots.

But as a particular affiftant to very infirm trees that make but weak shoots, generally examine the roots; if they are decayed, there is little to be expected; but if not, prune the extreme ends, to encourage new fibres, cut off distempered or damaged parts, if any, and then add a quantity of fresh learny compost and good rotten dung, which will often do a great deal in recovering them, revive and restore them to a state of active growth, more vigorous shooting, and abundant fruitfulness.

As it is eligible in wall and espalier trees that make weak shoots, to retain only the very best of these shoots, cutting out all the feeble twigs, be careful to keep the stronger ones thin; as for instance, in trees bearing on the young wood, requiring a general annual supply, train them fix or eight inches asunder, that by keeping them thin of wood, they will often gradually acquire strength in a year or two's time; observing the fame proportion in the four-bearing trees.

And in trees, weakly shooters, of such as bear on the young wood, and where the supply of successional shoots are generally shortened, let the requisite supply be not only kept thinner, but always shortened more in proportion, than in trees of a stronger growth; in order thereby to promote by degrees a more vigorous state;... afterwards to be pruned in the common way.

In standard trees likewise; in the first training particularly, if mostly but weak, slender shoots occur, cut out all the very infirm growths. in winter, leaving only the most regular-placed of the strongest, sufficient to give the head its first necessary form; and these managed, agreeable to the rules already exhibited for standard, trees; likewife in standards of more advanced CHILL

growth,

growth, where many weak, dangling twigs encumber the general bearers, or crowd the head, it is proper to retrench them.

Deformed Shoots.

In wall and espalier trees, any shoots that naturally grow very crooked, or of an ill-formed growth, or singularly thick, or swelling to an uncommon size, or any other natural deformity, are, for the general part to be rejected, and pruned out close, as they are neither so proper for mother branches or bearers, as the regular growths a for the shoots they produce may likely inherit the infirmity of the parent, and neither; form regular trees nor plentiful beariers.

eniring a general annual supply, cries them be or eight inches comment, tus-aroll. Sender them

thin of wood, they will often groun INDER this appellation may be confidered any of the mother branches or main bearers in old trees, nearly as observed in the article Barren Wood, which either by long bearing, diftemper, infirmity, or any unforeseen cause, have become of a barren or ill-bearing state; neither furnishing proper fruit shoots; as is requiste in peaches, nectarines apricots, and other trees bearing on the young wood; or eligible fruit spurs for bearing; as in apples, pears, and other spur-bearing trees, as may be easily diftinguished, and should be well attended to in the operation of pruning, in order, either previ oully to train in some contiguous young shoots from below, and when advanced to a bearing flate, prune out the worn-out old wood, for the young to supply its place; or if when the barren wood is first discovered, there are spare eligible bearers

bearers adjoining on either fide thereof, or produced towards the lower part of the worn-out bearer, retrench the old directly in the winter pruning and expand the others in its place, and thus have every part of the trees always occupied with proper bearing wood. See the article Barren Branches, and renewing the Branches.

Likewise, we are to consider as worn-out branches, all decayed and dead ones, which should always be retrenched as soon as discovered, that the trees may not be incumbered with

any thing that is useless or hurtful.

In these kind of old trees, be careful always to observe the lower parts; if any good young shoots come out, carefully retain them either entire, or shortened to a few eyes, if more wood is wanted; training them between the old branches, ready to replace them when it shall appear necessary.

Naked Branches.

By this term, naked branches, is comprepalier trees, &c. that have advanced a confiderable length, and are naked of fruitful parts, neither furnishing proper fruitful shoots in trees bearing on the young wood, or fruit spurs in the spur bearing trees, according to the nature of bearing of the different species, &c. and that coming under the denomination of naked barren branches, should be occasionally retrenched in winter pruning, to make room for their betters; especially when they have advanced in that fruitless state near the top, or to the utmost scope of walling or espalier; generally observing their origin, either to cut them quite out, or if more convenient, prune them down to any young fruit-

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ful shoot or branch below to supply their place.

See barren or unfruitful Branches.

Likewise, under the denomination of naked branches, may consider also such shoots of peaches, nectarines, and the like trees bearing on the young wood, that are not well furnished with blossom or fruit buds; and that in winter pruning when a sufficiency of others of a more fruitful state discover themselves, the naked ones should be pruned out close, to give room for the proper bearers.

Renewing the Branches in old and worn-out Trees.

SOMETIMES old wall and espalier fruit trees decline bearing, either through great age and long bearing on the same branches without renewal, or by false pruning, or want of proper scope of room to extend the branches, in which case, they are obliged to be often shortened; or by some other cause, whereby the tree becomes of an ill growth, or of a worn-out unfruitful state throughout, and the branches want renewing with a general supply of young ones from the bottom where practicable, either by gradually training young shoots from below, or by the old branches being cut down, young are recovered in their place.

This renewal of branches is effected, sometimes, by previously having young shoots, if any, push out below in training between the old branches, which, as the young gradually advance to bearing, may be cut out by degrees in the

winter pruning.

Or fometimes in default of having previous shoots, in training as above, may cut down all the branches by degrees to any lower collaterals, that have casually pushed out, if any; or in some forts

of trees may cut the whole down at once in winter or fpring pruning, and they will break out in the fummer following; more especially the softer wooded kinds, fuch as apples, pears, figs, &c. but may also make the experiment occasionally on any other kinds, fuch as plums, apricots, cherries, peaches, &c. when they are absolutely reduced to fuch a bad habit of growth, that all the branches are in a manner become quite barren, as fometimes is the case, and that there is no other resource, by means of young shoots pushing naturally below, though some of these kinds, even when headed to the large branches, rather push out reluctantly in the old wood, the fap forcing, with difficulty, through the hard bark, as already hinted.

However, several forts will push out shoots kindly; and the others, if they furnish only a few good shoots by means of heading down the branches, it will be easy to obtain more by pruning or pinching down thee first productions to a few eyes the same summer or spring following; and by the same practice, if necessary; any of the sorts will surnish a due abundance of collaterals to form an eligible spread of young branches, to form an

entire new head.

Let it however be remarked, that when intendding to practife the above work of heading down
the old worn-out branches in wall and espalier
trees, let it be performed in the spring about
February or March, cutting them off within
a foot or two of the bottom, in a moderate
sloping manner, and they will break forth the
same spring and summer, often in tolerable abundance of strong shoots, of which rub off all the
foreright, and retain all the side ones for training; observing, if you would have a farther supply
in any of the more vacant parts, as soon as posI 5 sible,

shoots in their first growth, in summer, to force

out collaterals the same year.

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Then having selected the best regular-placed and most promising of the new shoots acquired by the above method, let them when of due length, be handsomely trained to the wall and espalier, horizontally five or six inches asunder at sull length all their summer's growth; and in winter, those of such trees bearing on the young wood, that are usually shortened, may be pruned to ten, twelve, or sisteen inches, and even in the spur-bearing trees, is you require a farther supply of branches in any part as speedy as possible, may also prune short some contiguous shoots; but otherwise extend them mostly entire, that they may more readily surnish fruit spurs sooner, and more abundantly their whole legath.

Having thus new formed your wall and espalier trees where necessary, with young branches from the bottom, let them be managed in the common way, according to the nature of bearing of the respective trees, as explained under the head Moder of Bearing; and in some sorts they will commence new bearers in two or three years; as in most trees bearing on the young wood; and in the others that bear on the several years branches or spurs, they will probably be three, sour, or sive years in attaining a bearing state; though cherries may probably bear in a year or two; and plums and apples in two or

three; but pears feldom fo foon.

Galbing or notching old Branches to gain young ones.

IN old apple and pear trees, &c. having any of the main branches worn out or become unfruitful with long bearing or bad culture, and want

want a renewal of young bearers from below in any particular part, and no young shoots are naturally produced, that to obtain such more certainly where wanted, we sometimes with a stout knife or chissel cut a small gash or notch towards the bottom of an old branch, near a joint or knot when practicable, in the part where the supply of wood is wanted, chipping out a small portion of the wood, and below which, shoots will often push forth to effect the purpose required.

This operation has in a manner nearly the fame effect as shortening; by checking the current of the sap upward, it often forces out shoots at, or just below the gash, and the best of which being trained up between the mother branches till arrived to bearing, then the worn-out

branches may be cut out by degrees.

General Observations on the Practice of annual Pruning and Training of Wall and Espalier Trees, every Summer and Winter.

A LL wall and espalier fruit trees in full training, abounding with a redundancy of both useful and useless shoots annually, as well as some of the older branches casually becoming of an unfruitful or worn-out or decayed state, they accordingly require a constant general pruning and training every year to retrench the redundant, irregular, and useless growths, both of the young annual shoots, and of the old wood occasionally, and to train in necessary supplies of young wood of the year for new bearers more or less as required, agreeable to the nature of bearing of the different forts of trees, and to reform and new train the irregularities of the former trained main branches and general bearers, which effential operations must be duly attended to twice every year; a summer pruning to regulate: gulate the shoots of the year; and a winter pruning to regulate the branches in general; as is

explained, each under its proper head.

The branches of wall and espalier trees being regularly trained from about five or fix to eight or ten inches distance in an horizontal arrangement, as we have formerly advised; our care in the operations of general pruning is to support this regularity with the greatest exactness, by annually cutting out the redundant and irregular

growths.

That as all the branches being trained at limited distances, they will annually throw out numerous lateral shoots in summer, many of them irregular and superfluous. and not admisfible; and as some of the older horizontals and bearers will cafually decline bearing and want renewal of young branches, some forts annually, as in all trees bearing on the year-old wood only, and which will require a general supply of each year's young shoots, and a share of the old wood cut out in proportion; others need only occasional renewals, as in trees bearing many years on the same branches; hence it is obvious, that to accomplish these necessary purposes, the operation of the general annual pruning must be attended to with the utmost care, in order both to retrench all the abovefaid irregular, superfluous and bad shoots of each year's production, and retain the requifite supply of useful ones; as well as to prune out in winter the declined bearers of former years training, together with any cafual, naked, wornout and unfruitful old branches and decayed wood, referving young to supply their place where necessary.

Likewise, in the general pruning wall and espalier trees, the operation of shortening the shoots is also necessary in several kinds; either

generally,

generally, with defign to promote more effectually a better supply of successional bearing shoots, in several kinds of trees bearing on the young wood; and occasionally in other trees to facilitate a supply of wood more expeditious and effectual, to furnish casual vacancies; and shortening is also often requisite to reduce within bounds, fuch as extend beyond the proper limits; though, for the general part, all trees bearing on fours require no shortening, except to fill vacancies, when they happen, either in the first training, or afterwards, as they may occur.

So that the great article in pruning wall and espalier trees, is to continue the regular arrangement of all the proper branches and bearers, and retrench such as are too abundant and crowding, and to train in the requisite and occasional supplies of young wood, more or less annually in fummer and winter, as the different forts of trees shall require, conformable to their orders of bearing, so as to keep every part regularly See the article occupied with fruitful wood.

Modes of Bearing.

Many September Great regard, however, should always be had to keep the arrangement of the mother branches and general bearers moderately thin, never crowded; for this is one peculiar merit in wall and espalier trees, in having the opportunity of arranging the bearers regularly at eligible diftances, to have large and fair fruit, ranging the smaller forts, such as cherries, currants, and the like, not less than four or five inches afunder; others of a larger growth, fuch as peaches, nectarines, apricots, plums, &c. five or fix at least, or if fix or feven, the fruit will be larger and finer, in proportion; and for apples, pears, and others of that tribe, about from five or fix to feven or eight inches may be proper diffances, according

according to the fizes of their respective varieties of the fruit; but figs having very large leaves and shoots, should have the main branches ranged eight or ten inches af under; and the grape vine being a numerous and strong shooter, requires to be trained a foot or fifteen inches distance, to afford proper room to arrange and nail in the fruit shoots and other necessary supplies in summer between the mother branches; that in general by keeping the branches of all forts of wall trees moderately thin of bearers in the winter prunings, according to the kinds of fruit, as above; and the general branches well cleared from all useless summer shoots, early in their growth, and the others trained in close, is the fure and only method for obtaining fruit in the best perfection.

Observe, we are never to prune any in summer but the young shoots of the year; the older branches that require retrenchment must only be pruned in winter; except casual decayed wood,

which may be pruned away at any time.

Nor in the summer pruning of wall trees, &c. should the young wood be too considerably diminished in thinning, so as to expose such fruit too suddenly or too fully to the sun and air, which was before sheltered by wood and leaves; for it is also necessary to retain a due abundance of the regular shoots, both to promote a free circulation of the sap to nourish the fruit, and to afford some moderate shade and shelter to it under the leaves.

In each pruning it is incumbent on every pruner to distinguish between the regular and proper shoots and branches, and the irregular and improper, and also the superabundant, useless, bad, and unfruitful growths; the regular and proper shoots being such that are well-placed, produced from the upper and under sides and ends of the

mother

mother branches and bearers, that are of middling firength and handsome growth, and which by their well-placed fituation can be trained to the wall, &c. with regularity; that irregular thoots, which being so ill-placed, as they cannot be regularly trained in for use, such as all fore-right shoots projecting before and behind the branches, and must be all cut out; that superabundant or superfluous, which though well-placed and good in itself, yet being too abundant or numerous, and more than are wanted or can be converted to use or trained in without confusion; and that bad or hurtful, which is of a luxuriant or ill-formed rude growth. generally of an unfruitful habit, and obnoxious to the neighbouring shoots, by robbing them of their daily nourishment; and we consider under the appellation of barren wood fuch branches or bearers both young or old, that either through fome ill habit of growth, bad pruning, old-age, or infirmity, affect an unfruitful state, producing but little or no good fruit, nor furnish. fruitful shoots, or fruit spurs, &c.

Agreeable to these hints, respecting the different kinds of useful and useless shoots and branches inthe general pruning of wall and espalier trees, you, will endeavour to prune accordingly with the necessary precautions; the irregular shoots should be all displaced, the superabundant ones thinned, cutting out the worst and most irregular, leaving a due supply of the best regular growths, and the very rank luxuriant growths, and other illgrown shoots should be mostly always cut clean away; unless there shall appear an absolute wecessity of retaining any well-placed one to fill a vacancy, or as a future resource for want of better, or to confume redundant nourishment; always clearing out the greater part of the bad growths of the year early in fummer, and the reft

rest in winter pruning; and as to the barren, unfruitful, or decayed branches, they should also be removed in the winter pruning, to make room to bring in the more fertile growths with proper regularity, so as to keep every part of

the tree furnished with proper bearers.

Likewise, in every general pruning, we must observe the utmost care to select a necessary supply of every year's regular-placed fide shoots proportionally, as the different trees require, agreeable to their order of bearing; those bearing on the young wood, requiring a general annual fupply of each year's shoots, as successional bearers; as in peaches, nectarines, apricots, figs, vines, morello cherries, &c. and a proportionable part of the declined bearers, and useless old wood. cut out in winter pruning to admit of room to train the young supply; but in trees bearing on fours arising on the older branches, of from two or three, to ten or twenty years old, or more, the same branches continuing bearing many years, they want only an occasional supply of young shoots to train for new bearers now and then, to replace cafual ill-bearing or worn-out and decayed branches; as in apples, pears, plums, cherries, and other spur bearing trees. See the different Orders of bearing.

For in all the different prunings, we must always keep in view the particular mode of bearing of the respective kinds of trees, to regulate our operations accordingly, and this every pruner ought to make himself well acquainted with, it being of the utmost consequence to the well-being of all the different trees, as some bear only on the year old shoots, producing the blossom buds immediately from the eyes of them, and some on the shoots of the year only, and several forts bear principally on the older branches of

from :

from two or three to many years growth, bearing on fpurs; all of which must be materially attended to in all the operations of pruning and

training.

It is also of importance for every proper to consider the different habits of growth the trees may assume at different periods, either as moderate, strong, or weak shooters, and the peculiar order of shooting, as well as to form a proper judgement of the present merit and suture events of the several forts of shoots and branches, with regard to situation, number, strength, and utility, which proper to retain and which to retrench, agreeable to the nature of the respective trees and order of bearing, and of various other circumstances, which depend chiefly upon practice and observation, by which, and the directions we have here exhibited under the various heads, every one may soon attain to the knowledge.

Two general regulations of pruning and training being necessary every year for all wall and espalier trees; a summer pruning to regulate the shoots of the year; and a winter pruning to give a universal reform both in the young wood and the older branches; each as below, under its re-

fyective head.

Directions for Summer pruning all the different Sorts of Wall Trees and Espaliers, &c.

SUMMER pruning is a most necessary operation, requiring to be performed annually inall wall and espalier fruit trees; for as every summer they produce numerous shoots that advance fast in growth, and would soon create great disorder, if not timely regulated by pruning out the improper, and laying in the eligible growths,

growths; so that the fummer pruning comprises a regulation among the general shoots of the year only, and is a most necessary and indispensable operation, to be performed occasionally from April, May, and June, until August; though it is adviseable to commence this business early in May, or June at farthest, before the moots run to any confiderable length in a diforderly, confused manner; for as the trees at this time abound with a multitude of the fame year's shoots, confisting both of regular growths proper for training in, and ill-placed, superstuous, and bad wood, that must be cut out; so that the whole requires a general reform; and the greatest merit in this is to perform it early in the feafon, before they run into great irregularity, forming a thicket of wood and leaves, as is too often the case, choaking up the fruit, and cause great pains and anxiety for the pruner to break through the confusion.

This therefore should be particularly attended to, if you would always have handsome trees and ine fruit; the first regulation may be commenced in May, or even earlier in fome, when the young shoots are only from about one or two, to three er four inches long, or sufficiently formed to enable you to make the necessary choice of the proper growths for training; and while they remain so young and tender, the improper and superfluous shoots may be easily displaced with the thumb, when you may first only rub off all the most irregular fore-right buds before and behind the branches, and early in June may finish all the rest; though it must be observed, if the work is omitted till the shoots have become long and woody, they must be pruned out with the knife; but by proceeding with this business early in the fummer's growth, it may be executed always with much greater nicety and dispatch, and the trees and fruit will reap a greater benefit in pro-

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portion. asm and la vaniant However, to proceed to the business, keep in mind the forts of trees you are fummer-pruning; those bearing on the young wood much have a larger supply of the regular young hoots left, and lefs cut out, than in trees bearing many years on the fame branches pobserving now to displace all the fore-right shoots clean off to the mother wood, as also all other ill-placed and unkindly growths, and the evidently superfluous shoots, referving a fufficiency of the regular-placed fide shoots in proportion as the respective trees require, agreeable to the order of bearing.

In peaches, nectarines, apricots, figs, and other trees bearing principally on the young yearling shoots only, and want a general renewal. annually of each year's production, as succession bearers; must now, in the fummer dreffing, carefully retain an abundant fupply of the best regular fide shoots and leaders in all parts of the tree, from the bottom upward, in order to be trained up between the mother branches, to chuse out of in the general winter pruning, as successional fruit shoots to train in as the main.

bearers, to afford next year's fruit.

Most of these kinds of trees which bear on the young shoots, generally produce annually many more shoots than are useful or wanted or can be trained in, being emitted mostly from the fruit horizontals or present bearers, proceeding, some from the upper and under fides, and some from the front and back parts of the fame branches, and require to be thinned and regulated; remarking, those issuing from the upper and under fides of the horizontals, are the principally to be necellary

regarded as the regular-placed shoots; but those proceeding directly fore-right in front or behind the branches, to be mostly rejected and removed; and also, as probably many of the regular shoots may prove too abundant, they must likewise be thinned; such for instance, if sive, six, or more arise on a horizontal, where only three or four may be sufficient to retain till winter pruning, when it is probable only one or two of them on each former bearer may be requisite to train for next year's bearing; and so in proportion to the several horizontals or bearers, in the general summer pruning, leaving a larger and smaller number on each, according to their strength, and extent

of growth, program as no mornogram at erect

Therefore, in respect to the proper regular fhoots, in the above kind of wall trees, examine, as you proceed, the fituation and number on each horizoutal, and felect, with abundance of care, a moderate plenty of the good and well-placed of the middling strong growths, and ease the tree of all that are very irregular and too abundant, retaining not less than two or three, if possible, of the best side shoots, and a leader on each horizontal, or prefent bearer, being the shoots laid in last winter; as also fome occasional good shoots arising on the older branches, and towards the foot or lower parts of the tree in vacancies, retrenching the evidently fuperfluous or overabundant shoots, together with all the fore-right and other irregular ones,. taking them clean off to the mother branches; likewise all luxuriants of extraordinary rankness, with any other unfruitful, ill-formedg rowths, which would incumber and rob the ufeful shoots of. nourishment; or where two or more shoots come out from the same eye, or at the end of the horizontals, clear out all but one of the best; as also most of the weak twigs, unless any shall appear. necessary

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necessary, for want of better, to supply a vacancy, and in which it may be pinched to an eye or two in May or June, to furnish a good shoot against winter pruning; and if then not wanted, may either cut the whole out close, or prune it down to the lowest eye, as a reserve to furnish future shoot, if necessary; though in any wide vacancies, or where a larger supply of wood is wanted, one or more strong shoots should be retained, and if pinched down to a few eyes early in May or in June, it will force out an additional supply of collaterals the fame feafon, to fill the vacant space more effectually; but observing, all the proper successional pruning, for the next year's immediate bearers, must be left entire, cleared from any lateral twigs, then nailed or fastened in straight and regular, continued at full length all fummer, and always closely trained as they advance in their fummer's growth; and thus your trees will appear handfome, the shoots for future bearers attain a proper growth, and the present fruit will be well nourished.

But figs should have only the fore-right and very irregular shoots retrenched, and such others only as cannot possibly be trained in; it being proper in these trees to retain three times more of the best regular-placed shoots in fummer, than what may feem necessary for the winter or spring training, on account the shoots being of a succulent, spongy nature, apt to suffer by severe frost; that by retaining plenty to chuse out of at the general pruning in spring, may have a greater chance of a proper supply of good shoots, escape the rigours of the winter, to furnish the tree more effectually with bearers, to produce the enfuing fummer's fruit. 101 on the coro seems contail of the vine, not to crowd the duots too cens-

derable

In vines, however, particularly, which are early shooters, and affect a rapid growth, soon run into disorder; we should therefore pay the greatest attention to commence the summer's regulation, in their early growth, even in April or May, by rubbing off only all the evidently useless buds, arising fore-right on the old wood particularly; and may give a general regulation when the shoots are a little more advanced, to enable you to distinguish the fruit shoots, having the fruit buds arising in the bosom of the leaves, but at all events be careful to begin this work before the shoots advance to any great length, and interfere and entangle with one another, which will cause great consusion, and occasion much

perplexity to regulate them.

As the vine always produces the fruit on shoots of the year only, be careful to preferve all the good fruit shoots, or such as furnish the present fruit, and which rife only from the year old shoots, laid in last winter, rarely from the old branches; fo that observing all shoots well furnished with fruit-blossoms, appearing first in little clusters from the eyes of them in the bosom of the young leaves, must now be retained; even both fide-shoots, fore-right shoots, or leadingshoots, that appear strong and eligible bearers; and let such of the barren or unfruitful shoots that are not wanted to furnish any void spaces, be all closely retrenched, in order to make good room to train in the proper supply in the most regular manner, To as to admit every advantage of the fun to the fruit; for without this most necessary assistance in the fullest degree, grapes will not attain due perfection in England, fo fhould use every means to accelerate their growth.

Observe, therefore, in the summer regulation of the vine, not to crowd the shoots too consi-

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derably, especially with weak straggling shoots, even though fruitful; for one good bunch of grapes well ripened, is worth fix ill-nourished ones; and by training the shoots early and moderately thin, to admit the full sun, is the only certain method whereby to obtain large and well-ripened grapes; for which reason, chuse principally only the best strong shoots, both such that shew well for good fruit, and others that are properly placed, so retain for successional mother bearers, next year, as not only the present fruit shoots, but other good ones of the same year's growth, serve also to chuse out of in winter pruning, to train as mother bearers, to produce the fruit shoots next summer.

Therefore, that befides felecting all the best fruit shoots, may also retain any others occafionally in all vacant parts, or where there is room to train them without crowding or confufion; and always look well towards the bottom, and retain any good shoots that offer, in order to have all parts eligibly well filled with bearing wood; but clear out all weak and ftraggling shoots; or if any fuch have fruit on them, may pinch them down to the first fruit, that their tops may not crowd or fhade the more eligible bearers; likewife remove fuch barren or fruitless shoots that are very ill-placed, either growing fore-right, rifing in places where they are not wanted, or may create disorder, or where the shoots in general are too abundant, let them be regulated, by thinning out the worst and most irregular, leaving, however, all the best fruitful shoots, and a moderate plenty of others proper for succession bearing wood, and retrench all the reft, taking them close out, together with all weak and other ftraggling shoots from the old wood; then train in all the useful growths, regular and close to the wall.

Let all the proper shoots be handsomely trained, straight and at equal distances, so as every shoot may have an equal benefit of the fun, for this is most effential to the good of the fruit; generally running the shoots at their natural length in their first growth; as if shortened too early, it forces out many lateral twigs from the lower eyes, crowding and shading the principal bearers; though the fruit shoots may be topped in July or earlier, if any run much out of bounds, taking them off about one or two joints above the bunches of the fruit, that it may receive a greater supply of nourishment; but the shoots not furnished with fruit should be commonly extended as far as there is room to run them; after this examine them frequently during their principal growth, to remove all after shoots, to prevent confusion, and from shading the fruit; likewise regulate any of the proper shoots, that may fly from the wall or take a wrong direction, training the whole always perfectly close and regular.

But in apples, pears, plums, cherries, and all others of the spur-bearing trees, which continue bearing many years on the same branches, and which being once furnished with their full spread of bearers, do not want an annual renewal thereof, as in trees bearing on the young wood, and that as they will throw out numerous fummer shoots, most of which require retrenching; except here and there a well-placed fide shoot, towards the lower parts of the general branches, and at gradual distances upwards, together with a leader to each branch, and occafionally leave one or more in any vacancy or wide space below; the whole to remain till winter pruning, in case of any unforeseen failure of any of the old branches; and fuch as are not then wanted

wanted to train for new bearers, or to furnish wood, are easily retrenched, it being best to have enough to chuse out of and some to spare; therefore making a selection of some good summer's shoots, as above, let all others of every denomination be pruned out close to the main branches, and then let the rest be trained up neatly between the mother bearers, at sull length.

However, let it be observed, that in the general fummer dressing of all forts of wall and ofpalier trees, it is adviseable in selecting the necessary supply of the shoots of the year, to retain at this time rather doubly more than may be apparently wanted, in proportion as the different trees require, both to support a general brisk circulation of the sap for the nourishment of the fruit, and that it may not be too fuddenly exposed to the scorching sun, as well as to have a fufficient abundance of proper shoots for a plentiful choice of what are good in the general winter pruning, which is always good culture, leaving trebly more in proportion in trees bearing on the young wood. than in those bearing on the same branches for many years. -

Never, however, crowd the trees at this time unnecessarily with evidently supersuous shoots, leave no more than what can be commodiously trained with regularity, chusing principally the best middling strong growths, continuing also a leader to the end of every main horizontal or bearer, and to that of the branches in general, the whole retained at full length; and let all the evidently too abundant and irregular ill-placed wood be cut clean away; likewise singularly luxuriant shoots, if any; though if a tree shoots luxuriantly throughout, it may be adviseable to leave the shoots more abundant than the general rule, during the summer, to divide

and confume the superabundant nourishment, to give some check to the luxuriancy, and promote

a more moderate growth.

And for the same purpose in strong-shooting trees, which affect a somewhat luxuriant state, and that produce casually very luxuriant shoots in particular parts, may occasionally leave here and there some one, or more, if it shall seem proper in summer, to draw off the redundant sap, and prevent its taking place in general; or retained in a vacancy, and pinched down to afford lateral shoots; but except in the above instances, let all such lateral luxuriants be cut clean out.

But in weakly shooting trees, retain principally the strongest of the general shoots, and rather thinly in proportion, to afford them a greater

opportunity of encreasing their strength.

Observing in general, that in retrenching the superabundant and useless shoots, to cut all quite close, leaving no stump or eye to shoot again.

Be always careful in the shoots retained for the select supply, to preserve them carefully entire, never shortened in summer, but cleared from any lateral twigs, and when of eligible length, i. e. from fix or eight inches to a foot long, let them be regularly layed in to the

wall, &c.

During this operation of summer dressing, look carefully to the lower parts of the tree; and more particularly those bearing on the young wood, to retain occasional strong shoots that offer below, in order to have young wood coming forward, one after another, to keep every part full of bearers; likewise in spur-bearing trees, etain occasional strong shoots, if any are pushed out below, where it is likely to be wanted in winter, either to supply the place of any ill-bearing

bearing or worn-out branches, or in a present

or apparent vacancy likely to happen.

Alio in the trees in general, if any strong shoots push out in vacancies, may pinch or cut them down in May or beginning of June, if necessary, to furnish more wood ready against winter pruning.

It is of fingular importance, as we before intimated, in retrenching the irregular and unnecessary wood, to prune it quite close to whence it proceeds, without leaving any part furnishing eyes to push out in future, which would fill the

trees with a thicket of after-shoots the same year.

Observe likewise, that the above general supply of regular shoots necessarily retained in the fummer regulation at their full length, are carefully to be continued fo all fummer, as they ad. vance in growth, for it is by no means proper to shorten any of them in their summer's growth. where there is room to extend them; because it would not only force out fide shoots from every lower eye, caufing a great thicket and confusion of after-wood, shading and choaking up the fruit, and require great, trouble to cut it out; but would also spoil the eyes of the shoots, from whence the bloffom buds and fruit fpurs are expected to appear for bearing, and greatly retard their fruitfulness; let therefore all that are defigned for bearers, be always laid in without shortening, in the season of their growth particularly.

Though in vines particularly, as we before observed, may shorten the fruit shoots only in July or August, to a joint or two above the fruit, which will there by receive a greater supply of nourishment, its growth encreased, and sooner

attain maturity.

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According as you proceed in the regulation of summer pruning, let all the necessary shoots felected for training, be laid in as you go on, or, at least, as soon as they are of due length, arranging the whole straight and close in regular order, without croffing the floots but as little as possible, fastening them handsomely to the wall, &c. at full length, by nailing them principally with shreds and nails, or the main shoots being nailed in, the smaller may be fastened with little twigs or flicks, fluck between and behind the branches, fo as to confine the shoots close to the wall; or some to save nailing, use long willow rods, &c. extending them in feveral ranges along the trees at fuch distances, as to receive all the shoots, nailing them at each end and middle; however, for general practice, there is nothing fike regular nailing the principal part or wholly, as being confiderably the neatest work, and most effectual means to preserve the regularity and beauty of the trees in their fummer's growth.

And in the espalier teees, that being regulated in respect to pruning, according to the foregoing directions, the reserved shoots must be all fastened in separately, in the same regular order, as in wall trees, by tying each shoot in its proper place with ofier twigs, or any neat pliable bandage.

After this general reform of fummer pruning and training, it is expedient to look frequently over the trees, both walls and espaliers, to adjust casual irregularities that may occur from time to time, such as to replace any shoots which have accidentally started from the wall, displace such chance after-shoots produced since the general regulation, that are not wanted in any vacancy, &c. and to extend the already-trained general

general shoots close to the wall and espasier, at their proper length, according as they advance in growth; keeping the whole always close and regular all summer, whereby you will have the pleasure of beholding your trees with the utmost satisfaction in their proper state of regularity, beautiful to the eye in their summer's dress, discovering their respective fruits agreeably to the sight, in such a manner as to receive all the necessary benefit of the sull sun, and free air, to improve

its general growth and perfection.

If any trees are attacked with the blight, as often occurs in the fummer's growth, feizing the shoots, becoming thick and bushy, curling up the leaves, thick, clammy, and yellowish, being in a great degree hurtful, should prune down the infected shoots below the distempered part to prevent its spreading, likewise pull off the worst of the curled leaves thereof, which would exhaust the sap, at the expence of the neighbouring shoots, as well as communicate the infection, than which nothing can be so injurious, both to the young shoots and fruit, and often their destruction; as if not prevented in time, the pestilence will frequently over-run a whole tree, - destroying the leaves; and when this happens, the fruit will never prosper, but often withers and drops off, and the young wood be-comes stunted, which is of bad consequence, in trees that bear on the young shoots particularly, for the leaves are such necessary organs to attract and transpire the air, &c. for the vegetable support, that trees divested of them by the depredations of blight and infects, at an improper feason often perish; at least the fruit of the same year; but by cutting down the distempered shoots, leaves and all, they will be enabled to push push out lower down, and prevent the malady

extending farther.

But as infects often prove very injurious to all wall trees and others, that besides cutting down the infected shoots, and pulling away the bad leaves, may occasionally practife the operation of fumigating with tobacco in a machine or fumigating bellows, to be had at most of the tinware-shops and braziers; and we often also with a portable hand-engine pump dash the trees with water, which often proves very beneficial, in helping to exterminate the vermin; and in dry weather, very ferviceable to the trees and fruit; these engines being of different forms and sizes, made of tin and of copper, and very portable to move to any part of a garden, and fold at the aforesaid shops, at from eight or ten shillings, to one, two, or three guineas, and are of remarkable utility.

After watering infected trees, some strew tobacco dust, &c. all over them to assist in destroy-

ing the vermin more effectually.

Sometimes wall trees set a greater abundance of fruit, than they can properly nourish; but more particularly apricots, peaches, and nectarines, and require thinning, especially when they rise in clusters, otherwise the fruit will not obtain near its due size, and in their growth would, for want of room, thrust one another off; besides when these trees are over-charged with fruit, they will produce but very weakly shoots for future bearers.

It is therefore very adviseable to thin the fruit moderately, generally beginning the business in May, when they are fairly set, and a little advanced in growth, to enable you to make a proper choice; though sometimes apricots will

require it fooner.

In this business, be careful to select the best fruit to stand, and thin off the others carefully; if the tree is of a free growth, leave but one or two on the smaller shoots, two or three on the middling ones, and but three, four, or sive on the stronger shoots, leaving them not less than three or four inches asunder; but if sive or six on the longer shoots, the better, and seldom leave more than one fruit on each eye; if two appear, and one exceeds the other in size, leave the largest, and take off the other; observing in weak trees, to leave sewer in proportion than on trees of stronger growth; being careful always to retain the sairest and most promising fruit for the crop.

In the apricot particularly, should save the thinned young green fruit, they are excellent for making the finest tarts of the season; some also save the thinned-off fruit of nectarines for

the same purpose.

When the fruit is advanced in growth, we fometimes practife stripping off part of the leaves from the wall trees, when they any where form too great a shade, and that we would admit the sun to accelerate the ripening, and improve the slavour and beauty of the choicer forts of fruit; but this should be effected with caution, and not till the fruit have advanced considerably in bulk, and then only just thin out some leaves, where the fruit is too closely shaded; for the leaves are necessary, both to defend and draw nourishment to the fruit, as well as to improve the growth of the trees themselves.

Operations of Winter Pruning, and general Regulation of all Wall and Espalier Trees.

THE winter pruning of all wall and espapalier trees, &c. comprehends a general reform among the branches of all denominations, both of the supply of young wood retained in summer, and of the older branches of one, two, or several year's standing, which general regulation is necessary every year; and, as in winter, the trees being devoid of leaves and fruit, and the sap at rest, affords the only opportunity for performing this necessary general operation.

In the summer a large supply of the regular shoots being trained in, to afford a sufficiency to chuse out of at the general winter pruning; at which time after selecting what is necessary of the best, the rest to be cut clean out; and also at the same time examining the older branches, in order to retrench any declined bearers, wornout and decayed wood, and young supplies to be trained up in their places, more or less, as the different sorts of trees shall require, according to their respective orders of bearing, and as advised below under their proper articles.

If the fummer pruning was well attended to, as we have advised, the winter pruning will be the more easily accomplished; but if not, it will be attended with greater pains and trouble

in proportion.

This operation of winter pruning may be commenced any time, from about the fall of the leaf in November, until February or March, without having any material regard to the weather, as it has no particular effect on the newly cut shoots and branches, as sometimes imagined; so that it may be commenced as soon

as the fall of the leaf gives notice, that the fap is at reft.

Though some regard may be had to the particular sorts and state of the tree, such as peaches and other trees that bear on the yearling shoats, and that are of a weakly state, may be the most eligibly pruned after Christmas, just when the sap begins to be in motion, that they may be thereby enabled to shoot stronger in spring; or where the tree is too abundant in juices, shooting greatly to vigorous shoots, the pruning may be more eligibly performed soon after the fall of the leaf, than if deferred till towards the spring, which will give some check to the circulation.

However, in some particular sorts of trees, the general winter pruning may often be performed the most successfully towards or after Christmas; more especially in several sorts bearing on the yearling shoots, which, as the spring advances, discover their blossom buds more abundantly, to make a proper choice of the most eli-

gible shoots to retain for bearers.

For example: apricots, peaches, and nectarines, bearing on the year-old shoots of last fummer, which produce the bloffom buds immediately from their eyes; and as these come out the most conspicuously in January and February, fo as we may readily judge of the good and bad buds, and distinguish the wood or shootbuds from those formed for blossom, which appear large, swelling, and turgid, so that it is of much importance to perform the pruning when the fruit buds are obvious enough to enable you to make a proper choice of the best shoots furnished therewith; though sometimes the buds are sufficiently swelled for you to distinguish them properly in the winter months, when you may perform the pruning at all opportunities

tunities, and it is not adviseable to delay it late in the spring, because the blossom buds will have become turgid, and many of them liable to

be displaced in pruning and nailing.

Figs likewise, though they may be winter pruned almost any time after the fall of the leaf, in October or November, yet as they bear only on the young year-old shoots, and which, in these trees particularly, are of a succulent, pithy nature, very liable to injury from hard frosts, it is adviseable generally to delay the winter pruning till towards Spring, February, or March, referving till that time all the shoots trained in at fummer pruning, and out of the whole a fufficiency may furvive the winter's frost, to have a greater abundancy to chuse out of, to train for the ensuing summer's bearers; but if pruned in autumn or early part of winter, and no more than the necessary supply of shoots retained, and fevere frost succeeds and destroys many of them, there is no referve to supply the loss, and the tree thereby will remain unfurnished with a sufficient supply of bearing shoots, and consequently the fruit will be scarce in proportion the summer

But on the other hand most other trees, such as yines, apples, pears, plums, cherries, currants, goosberries, mulberries, quinces, medlars, &c. may all be pruned any time from the fall of the leaf, aforesaid, and in any weather when con-

venient, all winter until March.

Though, as to vines, I should advise to be pruned rather forward in the winter, and the sooner after the fall of the leaf the better, for as they produce their fruit shoots from those of last summer's growth only, they often form the fruit shoot buds early; and if all the superstuous wood is timely retrenched and no more young wood

wood is retained than what is just necessary for the ensuing summer's production, there will be a greater chance of having a plentisul and prosperous crop of grapes; however, vines may also be pruned any time, from November till March, but would prefer forward pruning, and never to practise any general pruning late in the spring, both for the above-mentioned reason, and because vines, by late pruning, are apt to bleed exceedingly from every wound after the knife; when, however, late pruning is obliged to be practised, and the vines bleed considerably, open the earth a little about the roots, and pour down two or three pots of water, which will stop the effusion of sap, and which may be practised to other trees

occasionally.

As the operation of winter pruning and training comprises the general annual regulation among all the branches and shoots, great attention must be had to keep every part of the trees well furnished with a regular expansion of good bearers, according to their nature of bearing, by cutting out at this time casual worn-out bearers, naked or barren old wood, and decayed branches, and training a supply of young regular shoots in all parts, where necessary, and retrench all the irregular and fuperabundant; fome trees however require a more abundant supply of shoots than others, and a more universal regulation; fuch as all trees bearing on the young wood, as apricots, peaches, nectarines, figs, and vines, and require a general renewal of young shoots for succession bearers, and a great deal of the former year's bearers, and old wood cut out to make room for training the young supply for next fummer's fruit, to be laid in five or fix inches afunder; but in regard to the trees bearing many years on the same branches, as apples, pears, &c. the

the regulation of pruning and training will not be near so considerable, only to prune out any worn-out, naked, unfruitful old branch that may casually happen, and train young in its stead, and to cut out all such young shoots as are not wanted for that purpose; and the general bearers continue trained six or eight inches distance.

Previous to the work of winter pruning, obferve; that in all the trees bearing on the young wood particularly, where a general fupply of new bearers is annually required, and much of the old cut out in proportion, to make room for the new bearers, and that confequently a large quantity of the last fummer's shoots were laid in to chuse from in this general pruning, it is adviseable to unnail a greater part of the mother branches, and all the last summer's shoots; especially as a considerable portion of the old wood will require to be cut out, as well as all the irregular and superfluous young wood, that cannot be trained in with regularity, and that being thus loofened from the wall, you will fee the bufinefs clear before you, be better able to make a proper choice of the shoots, have more liberty to use your knife to advantage, as well as to have the opportunity of new training the trees, agreeable to what you cut out, and what retain; for in these forts of trees there being always a necessity of cutting out a good deal of the former bearers. to make way for the new, that confequently the general branches will require fresh training.

Having, therefore, in the peach, apricot, and nectarine, loofened the branches, as above, proceed to pruning, which, in these kinds, you are to keep in mind that a general supply of the best placed of the last summer's shoots, such that are best surnished with blossom buds, are to be

every

every where retained for the enfuing fummer's bearing, and a great part of the old and former years bearers, cut out in proportion in every part, to give place to the young fupply; also any casual old naked large branches as do not furnish young bearing wood, are likewise now to be retrenched in order to have due scope to train in an abundant supply of the yearling shoots, in all parts of

the tree, for next year's fruit.

As in these trees, a great number of the wellplaced, fide, and leading shoots of last summer, were retained upon most of the then bearers or horizontals, trained in the winter before, in order to have abundance to chuse out of at this time, we must now therefore examine the number, firength, quality, and fituation of the fupply of young wood retained on each of the aforefaid laft fummer's bearers; and as in some trees there will be both strong, weak, and luxuriant shoots, together with fuch as are regular, and some that are ill-placed, as well as many that are fuperfluous or too abundant, the middling frong fide shoots, best furnished with blossom buds, are to be principally regarded, the fore-right and other bad growths to be rejected, except where there is no better; remarking, that as we having advised in fummer, to retain two, three, or four shoots on each horizontal or bearer, of which probably in this pruning, one or two at most on each may be sufficient; especially in full trained trees; but in trees still in training, it is probable two, three, or more, may be eligible; so that we must regulate the operation of pruning accordingly.

Agreeable to these hints, look over the general branches; if any of the older ones or mother supporters are become naked of fruitful young wood, or having advanced considerably, and support no good bearing shoots, or only at

the extreme parts, cut them down, either to the first great branch well furnished with young wood, or to any lateral young branch they support, furnished with proper shoots, or to some good shoot pushed out below; or if any main branch is worn out, having horizontals producing only weak trifling shoots, let them also be pruned as above, either to their origin, or to any strong lateral shoot or lower branch, furnished with such to terminate it, and supply the place of that cut away; for in these kind of trees particularly, sufficient room must always be made to lay in this necessary annual snccessional supply of yearling young shoots in every part, for next fummer's bearers, by cutting out part of the old at this pruming; from these look over the general supply of young shoots, keeping in view, that the requisite supply of the best, should be retained, so as to arrange about four, five, or fix inches afunder, after cutting out all the irregular and fuperabundant, as below.

. Thus, in the above-mentioned trees, proceed regularly in the winter pruning, to examine the number of shoots on each mother branch or last year's bearer, and carefully remark the requisite supply of the best shoots proper to retain on each, preferring those that are well furnished with blossom buds, and from which cutting out all the fore-right and other irregular shoots that may have been omitted in summer pruning; likewise all very weak shoots, and the superior luxuriant growths, unless it shall appear necessary to retain some one or more to furnish any present or apparent future vacancy; then of the remaining regular fide shoots you are to felect the most eligible for your purpose; observing, that as the principal supply being produced on the former year's horizontals, each probably

furnish-

furnishing two, three, or more, and of which, where only one of the best appears sufficient to retain, you will be careful to fix either on the best of the lowermost, cutting the upper part of the mother wood down to it; or if it shall seem proper to extend the branches more in length, or to make room for other shoots advancing below, leave the best of the upper shoots on such mother branches, either placed naturally at the end thereof, if eligible, or if not, cutting down the old horizontal to the select shoot; or if two or more shoots shall seem requisite to be retained on any mother branch in wide spaces, leave the best of the lowermost and that of the uppermost ones, the latter placed either at the end, or pruning away the upper part of the old wood down to the uppermost of the two shoots, that the branch may also always terminate in a young bearing shoot for a leader, cutting off also any intervening shoots between or below the felect ones; which me-thods must be observed throughout, proceeding regularly branch by branch, felecting always one, and occasionally two, or more of the best shoots on each last year's bearers, making one always terminate the branch, by pruning as above; and cut out close all the useless and superfluous ones, above described, close to the mother wood, not leaving any stump, for the reasons before given; keeping always a good look-out in vacancies, to leave shoots to furnish them; and if any good ones have pushed out from the old wood below, observe whether they will be useful, either to train as bearers, or to furnish a supply of young wood, and either retain or retrench them, as it shall seem expedient; and as you proceed in pruning, it is adviseable in these trees to shorten most of the reserved shoots, more or less, as hereafter directed.

Having

Having advised that in cutting out the superabundant and irregular shoots, to be generally careful to cut close, without leaving any stump furnished with eyes to push out shoots, where not wanted; which should be strictly observed, except occasionally, in any casual vacancies, where, if it shall seem eligible in the lower parts. of long naked horizontals, or upon any old branch, where a supply of wood will apparently be necessary, may in such cases prune occasional, fmall fhoots, or any that are of a moderate growth to an eye or two, to furnish one or two good shoots next symmer as a referve, to chuse out of next winter; and if then not wanted, cut them clean out; but all the unnecessary shoots of a very vigorous growth should always be cut close; unless it shall appear necessary in any particular part of trees inclined to luxuriancy to prune some one or more to one, two, or more buds, to push out strong shoots in summer. as waste pipes to carry off and exhaust the too abundant juices.

In wide vacancies, where it appears necessary in this pruning to preserve some good strong shoots where practicable, if those now retained are not sufficient, may prune them down to three, four, or five eyes, each will furnish the like

number of shoots the ensuing summer.

It being very material in these trees bearing on the young wood, to observe well the lower parts, as we have before noticed, to retain any good shoots that have shot out from the old wood, or any other; and should therefore be particularly careful now in the winter pruning to preserve such good well-placed strong shoots that occur, for it is of the utmost consequence to have the bottom of those trees well furnished with young wood advancing progressively, as we have else-

where explained.

Shortening the general supply of shoots now proper to retain in these trees, should be performed as you proceed in this general regulation of winter pruning, when most or all the select supply of shoots, now retained both for bearers, and to produce suture supplies of wood, and which were continued at full length all summer, should be more or less shortened in the peach, nectarine, and apricot, to promote their producing more effectually a supply of collaterals from the lower eyes, the following summer for suture bearers, which otherwise would push out mostly toward the upper parts and leave the bottom naked, that in time the tree would have

bearing wood only towards the top.

The rule for shortening, is to leave the strongest always the longest, generally cutting off about one third or fourth of their length, or a little more or less in proportion to their strength, and according as the bloffom buds are fituated higher or lower on the shoots, not to cut below all of them; shoots of about a foot long may be shortened to feven or eight inches; one of fifteen or eighteen inches cut to ten or twelve or a little more or less; and those of two feet long may be shortened to fixteen or eighteen inches; and fo of others longer or shorter, and according to the substance of the respective shoots and strength of the tree; one that makes weakly shoots should generally be pruned thinner, and the shoots cut shorter than those of middling strong growths; and vigorous trees should have the shoots retained thicker and shortened but moderately, the better to exhaust the too abundant nourishment by a larger extent of wood, as we have formerly explained.

It is also adviseable in shortening, either to cut each shoot to a wood or shoot bud, that it may furnish a leader at the end, to draw the nourishment more abundantly through the whole bearer to supply the fruit, or prune to a blossom bud surnished also with a wood bud, which is commonly the more applicable in twin blossoms. than single ones, for where two rise from the same eye, a wood bud generally issues from between; a leading shoot rising immediately at or near the end of a horizontal, draws the sap through its whole length more effectually to nourish the respective fruit, which will be found of singular advantage.

Or fometimes in shortening weak trees, may cut the shoots alternately longer and shorter, the long to produce fruit, the short to furnish wood, by which means you will more effectually keep your trees well silled with young bearing wood, and you will have more resources to furnish the

annual supplies of successional bearers.

In declined trees that shoot weakly, always retain only the very best shoots, cutting out all the very weak ones, and prune the remainder short, whereby the tree will more readily recover

proper strength.

But in luxuriant trees, that produce much vigorous wood and but little fruit, take out all the rankest shoots, leaving the others thicker than in moderate trees, as we already hinted; and but very moderately shortened for a year or two, and the trees will thus gradually become moderate shooters and good bearers.

In the winter pruning of these three sorts of trees, you will often meet with short natural spurs, an inch or two long terminated, by clusters of blossom buds, which will bear very fine fruit, it is adviseable to retain all that are of moderate growth, those projecting too considerably fore-

right retrenched, the fide ones not exceeding one, two, or three inches long, are very eli-

gible.

As foon as one tree is pruned, let it be directly nailed in a neat manner, arranging the lower branches first, more or less horizontally, as we before explained; proceeding with the others accordingly, observing if any shoots have be left too close in pruning, that cannot be eligibly admitted, as is frequently the case, let the nailer regulate them by cutting out the most irregular, as he shall see proper, and let all the rest be handsomely extended as straight as possible, sive or fix inches as funder.

In vines, the winter pruning may be performed, as foon as the fall of the leaf commences, or any time in winter; observing as in the peaches, &c. a general supply of the last summer's shoots must be retained in every part from the bottom upward, and to make room for which, part of the old wood and former years mother bearers must be annually cut out at the winter pruning, to admit of arranging the young bearers and branches in general ten or twelve inches asunder, at least, which is necessary, in order to have sufficient scope to lay in their requisite supply

of fruit shoots and others in summer.

Examine therefore the general mother branches, if any old ones have advanced long and naked, without being properly furnished with young bearing shoots, it should be reduced down to any lower shoot or younger branch, furnishing such shoots; as also reduce any casual rambler, that runs out beyond the general branches; then in respect to the requisite supply of young shoots of last summer's growth now proper to retain for the ensuing summer's mother bearers, you will now observe their number and situation on

each year-old branch of last winter's training, it is probable there were two, three, four, or more retained on each in the summer's pruning, and of which, one or two at most of the belt will be sufficient to retain for the present fupply, also some occasional shoots pushed out from the older wood in vacancies; however, as the principal supply is to be expected only from the year-old branches, select the best for your purpose, either the lower, middlemost, or uppermost shoot on the mother branch, as shall seem most eligible; if confined for room above, probably the lower or middle shoots may be the most eligible, cutting down the upper part of the old branch with any shoots thereon, to the shoot proper to retain; or if the branch requires to be extended to give room for others advancing below, the best middle or upper shoot will be proper to leave, cutting down the old wood, as above, to it; or fometimes in wide fpaces, two good shoots may be necessary to retain on some mother branches, when you will reserve the highest and lowermost, or such two as appear the best; observing if no shoot proper to retain is fituated immediately at the end of the mother branch, be careful always to cut down the old bearer to the first shoot of the number fixed on, cutting away all other intermediate shoots, that are either superstuous, more than wanted or are ill-placed, or of a weak, straggling growth, keeping a strict eye always to the lower parts of the vine, to retain any good shoots that advance in vacancies, both towards the bottom and middle, in order to have young wood furnishing bearers, rising one under another, between the large branches, in a gradual order, to have every part equally furnished, and as the upper old branches become too long and naked,

or worn-out, and require cutting down, the under younger ones advance by degrees to supply their

place.

Then observing that all the remaining young shoots retained for training, must be shortened to from two or three to sive or six eyes or joints in length; for the shoots of vines running mostly to an exceeding great length, consisting of many joints, that if left too long, would by pushing out from every eye in summer, create considerable disorder, by producing many more shoots than could be admitted, and the fruit would be small and ill-nourished.

Let therefore the common frong fhoots be pruned to from three or four to five or fix joints or buds, not reckoning the lower one, which feldom furnishes good bearing shoots; but the shoots in wide vacancies may be left longer, than where they are more fully trained; likewife the upper shoots, if a large scope of walling above to cover, may be left longer than those below, or even than the common rule, where you require to extend them either horizontally or erect, to furnish any capacious space; but weak shoots should never be left more than two or three joints, exclusive of the lower eye: observing in the general shortening, to perform it commonly behind a bud, from about half an inch to an inch above it, with a flanting cut upward.

As you proceed in finishing the pruning of each tree, let the branches be regularly nailed up to the wall either horizontally, or more or less towards the upright, as the space of walling admits, arranging the general branches ten or twelve inches asunder, or if fifteen inches room is allotted between the bearers, so as to afford a larger scope of room, to admit of arranging their productions of next summer thin and regular,

they

they will produce large bunches of grapes in proportion; observing in the work of nailing, that if too many branches, either young or old, were left in pruning, let them now be regulated by pruning out the most irregular; likewise observe if the branches require a general regulation of training, let the whole branches be unnailed, and arranged a-new with the proper

regularity, at the above diffances.

As to the figs, I should advise them to be pruned principally toward the spring, after they have stood over the winter and the ravages of severe weather, thereby have the opportunity of selecting out of the whole a supply of the best shoots that have out-lived the frost, as formerly intimated; for as the shoots are tender, it is adviseable to keep the whole nailed close to the wall all winter, to have all possible shelter from rigorous weather; or in severe winter, cover them with mats during the hard frost, or those both in walls and espaisers brought down to the ground and covered with dry litter, but all covering removed the moment the weather changes.

Figs in the general winter or spring pruning, must have the same regulation among both the old and young branches, as observed for the peaches, &c. but should generally be pruned thinner than those trees, they having large shoots and very broad leaves, the branches should be trained wide in proportion, generally ranged about from seven or eight to ten inches distance, and always at full length, except cutting off casual dead ends; because as the fruit is produced mostly towards the upper ends, shortening would destroy the bearing parts, and force them into much lateral unnecessary wood, for they naturally furnish abundance of successional

shoots every summer, for the succeeding year's bearers.

In proceeding to winter- prune figs, observe the same rule as in other trees bearing on the young wood, look for any long, naked old branches, advanced near the top of the wall, or to their extreme limits on the fides, without furnishing an eligible supply of lateral young wood to chuse out of for bearing next summer, and let them now be pruned down to some lateral young shoot, if any occur, or to any lateral branch they support, and that furnishes bearing wood; likewise in the same manner reduce long ramblers. extended out of bounds; then with regard to the general supply of young shoots, cut away all fore-right and other ill-placed ones; and then examining the remaining regular supply, felect a sufficiency of the moderately strong, robust, short-jointed shoots, one at least on each former year's horizontal or bearer; or occasionally retain two or more, in particular vacant parts, and in proportion on the older branches, in vacancies; and be careful always to retain good shoots below, to continue every part eligibly filled with bearers, arising between the main branches, as well as at the terminations, in regular gradation from the bottom to the extremities, rejecting very long, flender shoots, and very rampant, woody growths, together with all weak stragglers, cutting them all close off to the mother wood, leaving no stump, contriving every branch to end in a young shoot for its leader, either placed naturally at the end, or the branches pruned down to fuch a shoot by the rules explained for peaches, nectarines, vines, &c. and if any of the new bearers, now retained, have been touched at the ends with the winter's frost, prune them down to the quick; but leave all the found ones

at their full natural length, and nailed in that manner to the wall, &c. observing to arrange the branches in general not less than fix or seven, but if eight or ten inches distance the better.

All the spur-bearing trees, such as apples, pears, plums, cherries, medlars, quinces, mulberries, currants, goosberries, and the like, may be safely pruned any time, from the fall of the leaf in November till March, at all conve-

nient opportunities.

Observe in all these spur-bearing kinds, trained as wall and espaliers trees, that as they continue bearing for many years on the same branches, of from one, two, or three, to many years old, they do not require a renewal of bearers annually, as in trees bearing mostly on the young wood of the year or a year old, but only here and there a good shoot occasionally, as any old bearer declines, and a leading one to every main branch, where room to extend them, keeping in mind to continue the general branches always arranged at full length, as far as the extent of the allotted limits admits, about five, fix, or seven inches assume.

Likewise in all these kind of trees bearing on the same branches of several years standing, not requiring a general annual supply of young wood for succession bearers, and that the superstuous and irregular shoots being mostly pruned out in summer, except in vacancies, they will not require any considerable winter pruning, only selecting what young wood is proper in vacant parts below, if any, and a leader to each mother branch, where the scope of room admits, and prune out all the rest quite close, unless any worn-out bearer, barren wood, or decayed branch occurs, when young wood should be retained, if any is contiguous, and the barren old wood cut out by degrees, either

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either to the retained young shoots, or to the most commodious lower branch; or otherwise train up occasional young shoots between, till arrived to bearing, then cut out the easual barren wood, or worn out bearers, &c. above described.

According therefore to these necessary hints in the ipur-bearing trees, proceed to winter prime apples, pears, plums, cherries, quinces, medlars, currents, &c. examine the general branches, being careful always to preserve the same horizontals for bearers, as long as they continue eligibly fruitful; and from which prune away all the unnecessary young shoots retained last summer, and referve occasional well-placed ones where wanted, by the rules explained below; observing at the same time, if any old bearer casually, decay or become of a cankery nature, let them be cut either quite down, or to some healthful young shoot or branch, which has been previously in training below to supply the place, if needful, of the part cut away; likewife any old naked horizontal, unfurnished with proper bearing fruitfpurs, or any accidental worn-out bearer, through age or infirmity, having cankery, unfruitful spurs, and that there are more eligible branches to fupply the place, they should also be cut gradually out, either to the mother branch from whence they arise, or to any lateral shoot or branch they may support. donastd o

But except in such cases as above, retain all the former bearers as long as they support a fruitful state; not only all the already trained proper branches, surnished with bearing spurs, but also such as are occasionally in training between them below for successional suture bearers, and only prune away by degrees, any such casual useless old wood, as above described, in winger pruning; having particular attention to pre-

ferve with the greatest care, all the healthful and well-placed proper fruit spurs that are of a fruitful flate; but retrench any very large, ragged, worn-out, or cankery ones, together with any large, false, barren spurs, formed of the remaining stumps of former retrenched shoots, and that are not furnished with fruit buds, (See Fruit Spurs) at the same time regulate the supply of young wood, the last summer's shoots, pruning out the superabundant and irregular thereof; and in vacancies, retain any contiguous lateral fide-shoots that are well-placed, and occasionally towards the lower parts of the large mother branches, where apparently wanted, either to furnish a present or an apparent future vacancy, it being necessary, in such cases, to have some young branches in training from below, between the principal ones, in particular parts where you shall judge eligible, without crowding, to be advancing by degrees to a bearing state, to supply the place of such old branches as cafually assume a decayed state, or become bad bearers, as aforesaid; all other lateral shoots retained in summer, not now wanted, as above, must be cut clean out; and, of the terminating or extreme shoots, preserve a leader, where practicable, to the end of every advancing branch, at full length, where room to train them; if not, either shorten or retrench them as it shall feem expedient, or let the branch, if too long, be shortened down to some good lateral shoot for a leader; which, together with all the other necessary occasional supply of shoots now retained, should be continued at full length in all these spur bearing trees, and extended as far as there is room; and only thorten such as casually extend out of bounds. According as each tree is pruned, let the

branches be all fastened up straight, and the whole at equal distances, close to the wall and espalier.

Observe of the morello cherry particularly among the spur-bearing trees, also the small May cherry, that as these trees always bear more abundant on the year old shoots than the older branches, a general annual supply of the young shoots of each year must be retained for successional bearers, as in peaches, &c. but not shortened, which would entirely ruin their bearing:

Mulberries trained against walls and espaliers should be winter pruned, nearly as directed above; for the apples, pears, &c. only it is proper to retain a larger supply of young shoots, advancing from the lower parts, one under another, between the mother branches, as successional bearers, to supply the place of older ones by degrees once in two, three, or more years, according as they become barren of proper lateral fruit shoots and spurs, as below, for bearing; and which should then be pruned out, either down to the bottom, or to the first best lateral young branch, or any good lower shoot in training.

For as those trees bear on the young wood, produced from that of one, two, and feveral years old, and principally on a fort of small spurs or short young shoots, arising both laterally towards the upper parts and at the ends of the faid one, two, and feveral years branches, as observed under the article Modes of Bearing, that it is consequently necessary to have the trees furnished both with young wood, and that of feveral years standing; therefore, selecting an eligible supply of the best moderate fide shoots, where wanted, with a leading one to the mother branches; where room to extend them, retain the whole entire, not shortened; and prune out all the ever-abundant annual young shoots close to the mother branches, together with all irregular-placed, and other bad growths of the year; then arrange all the proper

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branches close to the wall, &c. always at their full length, as far as you can, as they both bear towards the extremities and on fide fours.

Querants and goofberries trained against walls and espatiers, must also have a general winter pruning, any time from November to the early part of the Spring, before they begin to shoot; observing, that as the same branches continue feveral years in bearing, as in apples and pears, &c. on small spurs, they should be accordingly retained for bearers, as long as they continue abundantly fruitful, furnished with plenty of young healthful fruit fours; but to retrench therefrom all unnecessary young shoets of last summer, only retaining regular placed ones in vacancies, and the leader to each mother branch, where room to extend them: and according as any old branch or branches casually fall in bearing, or assume an i I growth, they mould be renewed by degrees, with new bearers, byhaving young shoots advancing below, and the worp-out wood then retrenehed.

You will therefore carefully rethin the fame former bearers that appear eligibly fruitful; and observe where any old branch decays, or becomes naked of good fruit buds, or the fruitfours are worn-out and barren, either prune out the branch, or cut it down to some lateral thoot of last funtmer, or to a young fruitful branch, placed on its lower part; and by cutting off worm out fours, new ones will often fucceed them in the fame place, or in the adjoining eyes; observing also, to prune out all the ill-placed. superfluous, or unnecessary young shoots of last fummer, only leaving fome well-placed ones occationally in vacancies towards the lower parts, or where it feems most eligible, in order to supply the places of cafual unfrittful old wood, and a leading one to the advancing branches, cutting

out all the others close to their origin; unless in vacant parts of the old wood, destitute of fruitfpurs, when you may, in currants particularly, retain some of the smaller lateral twigs, and cut them to an inch or two long, to form fnags, which will often produce bloffom buds and commence bearers; but observing, for the general part, both in goofberries and currants, that the requifite occasional supply of young shoots, retained for bearing branches, should mostly be continued at their natural length to the allotted extent of walling and espalier; and only where straightened for room to run them, they may be more of less shortened, which however will cause them to push out much more unnecessary wood, and fewer natural fruit-spurs in proportion; though the currant, in particular, more fuccessfully than the goofberry, will also bear on the snags or stumps of the small shortened shoots, as above-said; but by cutting out most of the superfluous and illplaced young wood quite close, especially on the younger branches, natural fruit spurs will rise generally in fufficient abundance.

Then as foon as pruned, let the branches be trained to the wall and espalier five or fix inches asunder, at their proper length, in all parts where there is room to extend them.

For the method of pruning the standard bushes of currants and goodberries, See the Standard-

Tree Pruning.

Raspberries being sometimes trained both against walls and espalier-ways, to improve the fize, flavour, and early perfection of the fruit; the winter pruning of such consists of cutting out, first all the old bearers of last summer close to the ground, as the same wood never bears but once, and lives but one year, that a full supply of last summer's shoots, which grow immediately from the root, must be now retained for next summer's bearers,

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to fix or eight on each flock or old root, cutting all the others clean out to the bettom.

If these plants are in espaliers, or trained to stakes in a famed manner espalier ways, having fix or eight shoots on each plant, retained either at their full length, or but moderately shertened, they should be ranged horizontally, about fix of eight inches alunder, to admit of room for their lateral fauit shoots in the summer following; also for the suckers from the bottom for the successional hearers, keeping them always at full length all summer, and only shortened occasionally in the winter pruning; but thin, out all the weak straggling growths.

By training these under-brube in a samed manner to stakes, thin and regular, the fruit will be larger and ripen earlier, with a richer slavour.

However, if planted in detached rows, five feet afunder, as standards; and about a yard distant in each row, kept to distant stools, with from three to five on fix good shoots on each, they will produce very fine fruit. See the different Question of Training, Se. and Standard Raspherries, page 232.

Pruning Standard Fruit Trees.

In regard to pruning flandard fruit trees, obferve in the general part, that after having an occasional regulating pruning in their early stage of growth, by retreaching cross-placed and other irregular shoots and branches, and reducing tolor-deriong rambling and luxuriant wood, and low-inclining stragglers, &c. to form the head with some tolerable regularity of shape, and having afterwards permitted the general regular branches to extend nearly in their natural order, they, in their advanced state, will only require a little pruning now and then, just to regulate the cross-placed

placed and crowding growths, which occasionally occur; and which occasional prunings in standards, should be performed principally in winter.

they, by means of pruning, may either be formed with spreading heads, or of a more upright

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growth, as required.

That when defigned to have them form lower spreading heads, branching out equally around, near the top of the stem, it is essected by cutting down the first leading shoot produced from the budding and grasting, to five or fix eyes or buds, and laterals will thereby rise from all the remaining lower eyes, in the summer following, and give the head its first proper formation, cutting out all cross-placed and straggling growths, and reduce very long rambling shoots. Sie the first Pruning and Training, Sc.

Though if required to have the standards afpire with more erect and higher heads, with the
branches more elevated from the ground, that
they may not overspread and stade the under
growths, the first shoots may be permitted to remain entire; but more especially in grafted
trees, to branch out by degrees in their own way,
and they will also form handsome heads, after
cutting out the irregular shoots; but in budded
trees, if the first shoot runs up tall and naked below, it may be proper to head it down at a year old,
less or more, that it may sumish some lower laterals,
which permit to run up in their natural growth.

However, after the above first regulation, permit all the general branches to extend at their natural length, as fast as possible, nearly in their own way of growth, and they will thus furnish themselves abundantly with bearing spurs, and fruit buds, are, agreeable to their nature of hearing, and they will need but very little pruning, only

to cut out casual irregularities, once in two, three, or many years, as it shall be required; for standards having sull scope for their branches to extend all around, they want no other pruning than only in cases of accidental, disorderly, and superabundant branches, which, however, may not happen once in several years, as noticed above.

All standards, however, should be examined occasionally, any time in winter, in order to disencumber them of disorderly growths, as they cafually happen: for example, any branches growing cross-ways the others, or right across the head, contrary to the direction of the general branches, caufing confusion and rubbing against them when moved by the wind, should be cut quite down; or when the general main branches are too abundant and confiderably crowded retrench the worst and most irregular of the fuperabundancy, cutting them either wholly down, or to any lateral branch necessary to retain; likewise, where the fmaller extreme branches or bearing wood form a thicketty growth in any part, let them be thinned to some degree of regularity; any rambling branch that out-grows all the others? in length, should reduce it to some order, confistent with the general extension, by pruning it to some lower lateral shoot or branch; observing alfo, the fame of any low straggling boughs, or that ramble irregularly below all the neighbouring ones; and where any luxuriant upright shoots rife in the middle of the head, cut them clean out to the bottom, together with all cafual decayed and cankery parts, pruned down to the live wood, or to any lower shoot of branch, to supply the place; being careful also where worn-our barren branches occur, to cut them out, either wholly, or down to some commodious lower fruitfull

ful branch they support, if any; or to some good young shoot to grow up in their stead; and in vacant spaces, wanting a supply of branches, encourage occasional strong contiguous shoots below, if any have pushed out and are favourably placed, to grow up to fill the space regularly.

It is also proper to displace all suckers, that arise from the roots of the standard trees, as likewife lateral shoots pushed out from the stem, below the general head, taking the whole clean out to the bottom.

Thus far is principally what we have to observe, relative to the pruning of common full and half flandards, as they shall occasionally require, in their different stages of growth, which, though the business is in many trees very inconsiderable, is often entirely omitted, and the trees, by degrees, grow into with diforder, producing small ill-nourished frait, but by clearing them with proper attention from all confiderably ill-placed, irre-gular, and crowding growths, to prevent con-fusion, to as the general main branches stand clear of one another, kept moderately thin, and somewhat regular, to admit the fun and free air, they will certainly furnish fruit in the bost perfection, that will fufficiently recompence the occasional pruning.

But with regard to dwarf standard trees, the concave kinds being trained with hollow heads. and with the branches standing circularly around; that to continue them perfectly regular, they require to have all middle floots rifing in the concavity, pruned clean out; also lateral shoots from the fides of the main bearers, except in vacancies, or where any branch wants a renewal, may retain fome contiguous regular shoots below, either to supply a present purpose, in room of any worn-out, or other barren branch, or to

be gradually advancing for a year or two to fupply any apparent future defect, generally continuing a leading shoot to the end of the branches entire; but if any advance longer than

all the reft, let it be regulated.

Observing generally, if any bad bearers, either aged, infirm, or that are naked of bearing parts, occur, let them be regulated according to the general rule, as also cross-placed and crowding branches, if any; so as the main bearers stand six or eight inches as under, and not generally shortened, but permitted mostly to extend; except reducing occasional ramblers,

extending out of regular bounds.

Though when designed to confine dwarf standard trees to a low stature in the head, as was much practised formerly, they require to be pruned down annually, to some convenient lateral shoots, that do not exceed the limited height, and those also sometimes shortened, if too long; but this method of continually pruning down and shortening, proves bad to many forts, by cutting away all the first bearing parts, and forcing out wood shoots from the lateral eyes, instead of fruit-spurs, and greatly retards their bearing; particularly such as apples, pears, plums, cherries, sigs, but which succeed better in peaches, nectarines, apricots, vines, currants, goosberries, &c. which admit of shortening, without any considerable inconvenience.

Conical and natural dwarf standards require also some occasional pruning in winter, to regugulate any ill-placed, over-abundant, and harren wood; as also the yearling shoots, where they rise too numerous, retaining any lower ones in vacancies; keeping the general branches eight or ten inches distance, and with always a leading shoot to each branch, where practicable;

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which must not be shortened, neither in apples, pears, plums, cherries, or figs, as aforesaid;

unless any branch ramble confiderably.

Nor is it eligible to practife severe shortening to any kind of dwarf standards, &c. especially where not limited to room; where indeed any particular branch runs wildly, beyond the regular bounds of the others, let it be shortened with discretion, by pruning it, if a young shoot, to a proper bud; or if consisting principally of a long old branch, thus irregularly advanced, generally, if practicable, cut it down, either to any lower lateral shoot or branch; or if no such is conveniently situated, prune it to some eligible fruit or wood bud, not stump it off to a naked end, and let the cut be sloping behind the shoot or bud intended.

In standard currants and goosberries, the general necessary prunings are performed principally in winter; and only occasionally in summer, to any considerable redundant growths of the

fame year.

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For instance: In June, may perform occasional summer prunings, just to clear away any thicketty suckers and shoots of the year below, and to prune out some of the most crowded supersuous lateral shoots also of the same summer from the middle of the head, so as to admit the sun, air, and rains to the fruit in a moderate degree, cutting them off close to the old wood, without leaving any spur or snag to shoot again the same season; not however pruning the top or leading shoots, nor any that are eligible to retain for bearers, and which permit to advance at their whole length during the summer's growth.

But the winter pruning confifts, both in retrenching all the remaining superabundant and ill.

placed

placed shoots of last summer, produced along the fides of the general bearers, and of reforming any irregularities of too crowded, crofs-placed, and bad growths among the old branches, as well as to cut away any worn out bearers and decayed wood, retaining necessary supplies of young in proportion and in vacancies; and generally not shorten the shoots confiderably, or some times not at all, especially goodberries, as hereafter explained; for it is a too common practice in the winter pruning these bushes, to shorten the occasional supply of young shoots immoderately, which is very erroneous, as it forces out numerous lateral shoots the following summer, and fills the head continually with thickets of unnecessary young wood, and produces smallill-nourished fruit.

I should advise in the winter pruning those trees, to keep the general branches thin, and the head kept concave or hollow in the middle, or with the middle full in a convex order, keeping the branches thin in proportion; and in either method have the general branches standing for or eight inches asunder, in somewhat regular order, with the terminating shoots, &c. but very moderately shortened; more especially the goodberries, which, if shortened too considerably, makes them run exceedingly to thickets of wood in fummer, choaking up, and darkening the fruit, and causing much trouble to cut them out in winter pruning; it is therefore more eligible not to shorten these kinds at all, especially where they fland distant and have full fcope to extend, and that you are not anxious for keeping the heads low, or within finall compass; in which case, keep the branches thin, and let them advance nearly in their natural growth, and only fhorten occasional ramblers, extending beyond the general branches, or any very crooked

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or bending inclinated shoots, and reduce to order

any low straggler.

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However, where the bushes stand near together, and it is necessary to confine the head within moderate bounds, shortening may be occasionally practifed both in the long extended shoots, and in the mother branches when too long, by cutting them down to some eligible lateral shoot; it being necessary generally to contrive a young shoot for a leader to each branch, placed either naturally at the end of the branch, or if any branch would thereby be extended too confiderably in length, the branch may be occasionally shortened down to any convenient lateral shoot, as just observed; leaving however only one leader at the end of each branch, cutting more than that clean out; or fuch branches as are already advanced to as great a length as required, or is eligible to extend them, and that you wish to keep the bushes low, or within a limited extent, may in such cases, dispense with the terminal leading shoots, by pruning them off elofe to the termination of the old wood; though it is considerably the most eligible to have the general branches extending with a leading shoot at their extremities, and when extended too long, regulate them as above.

As in all the varieties of currants and goofberries that are immoderately pruned down, numerous shoots are annually produced in summer from the sides and ends of almost all the branches and bearers, especially in such trees that have been much shortened; and in which case they must now be regulated, or mostly all retrenched in the winter pruning; except in casual vacancies, and the terminating ones to the main

branches aforefaid.

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Likewise,

Likewise, as some of the mother branches and bearers will casually by degrees, assume a wornout barren state, they must be occasionally pruned out, and their place supplied with young wood from below, by retaining some strong lower

shoots for that purpose.

For although a plantation of standard goosberries and currants will continue bearing many years in a natural state, with but little, or scarcely any pruning, yet, as they are apt to run confiderably to wood, they are greatly improved in their production of much larger and finer fruit, by necessary winter prunings, whereby to keep the general branches moderately thin, in a fomewhat regular expansion, through means of occalionally retrenching too crowded and all irregular growths, which by degrees would create great diforder; and also occasionally to cut away bad old wood, worn-out bearers, and decayed branches, retaining proper supplies of young in their stead; and thus keeping the trees moderately thin of branches in regular order, cleared of bad wood, and always well furnished with eligible bearers, the fruit will be confiderably fuperior in fize and flavour.

Therefore, in the general winter pruning of these standard bushes, you will cut out all the supperfluous lateral young shoots of last summer close to the mother wood, but preserve a leading one to each advancing branch where eligible, as above remarked; or if any vacancy occur, leave some good regular shoot below, and if any worn-out, barren, or shabby old branch appear, cut it out, either to the bottom, or if more eligible, to some strong, regular-placed lower shoot, or any lateral young branch produced from the lower parts of the old, that is to be cut away; making it a general rule to prune out by degrees casual barren worn-out old wood,

having

having young advancing occasionally in any wide vacant space below to supply its place, as may be required; also reduce long ramblers by the aforementioned rules, and prune out cross-placed growths; and if the general branches should be any where too abundant or irregular, crowding and confusing one another, let them now in the winter pruning, be properly regulated by thinning out the most crowding, irregular, illand all decayed wood; retaining the proper branches and bearers at regular distances, not less than fix or eight inches afunder, as before advised; each terminated by a young shoot of last fummer, where convenient and eligible, by the rules before directed; either moderately shortened, or left entire, as the circumstances require, as formerly exemplified.

But in the occasional shortening the shoots of these bushes, let it be performed with some mode. ration, not to flump the shoots univertally short, as is very commonly practifed, but perform it only principally to the extreme shoots, more or less, that advance beyond the intended limits; but those advancing from below should be shortened much less in proportion, or not at all, till advanced beyond the height or length intended; and also such older bearers that casually become too extensive and want reducing within bounds, do not generally stump them off at random to a naked end, but always, either cut them down to a good lateral shoot, or some lower branch they may support, or if none, prune them to some

eligible bud or fruit fpur.

Generally keep each bush to a single stem a foot high or more, by clearing away all lateral shoots below, and constantly eradicating all suckers ariting from the root; likewife may trim any low

ftr ggling branches of the head.

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Though these bushes are often suffered to advance with several stems, formed sometimes of suckers, produced from the bottom; but in this order of growth, they not only overspread the ground too much, but are not so easily kept to

any regular form.

But sometimes when they are trained in a fanned manner, espalier-ways, several branches advancing immediately from and near the bottom is allowable, such only however as arrange the way of the row, cutting out all that project before and behind and out of the proper line, keeping the regular branches which range in the order required, six or eight inches as under, managing them agreeable to the general directions already given.

It is always of a fingular advantage in the culture of these fruit-shrubs, in every order of training, to keep the branches thin, and you will obtain the fruit much larger and finer beyond comparison, than when suffered to remain crowded

with wood.

Standard raspberries also require an annual pruning, which in summer is very inconsiderable; but in winter, consists of a general pruning and regulation, to retrench the last summer's bearers, as the same wood never bears but once, and to felect a supply of the best young shoots for successional bearing wood, and thin out the worst and suberabundancy thereof.

In fummer, about June, July, &c. only cut out any straggling suckers or shoots of the year, arising at a distance from the main plants between the rows, and intervals in the lines, preserving most of the strong shoots, that stand close about the mother roots or main stools, for the successional bearers next summer, and only where any are evidently too abundant

and crowded, prune out some of the weakest and most irregular in a thinning order; leaving all the others at their natural length all this season; and by thus clearing out the useless straggling stems, in summer, as above, the sum and free air will be more effectually admitted, to promote the growth and ripening of the fruit.

But in the winter pruning, observe, as hinted above; that as the last summer's bearers will now have become of a decayed state and useless, never surviving the winter to bear a second crop of fruit, (See Modes of Bearing) they must now all be pruned out to make room for the successional bearers, consisting of the young sucker shoots, produced last summer from the crown and sides of the root of the old stools, shooting up between the bearers, attaining from three to four or sine feet growth the same year, sit for bearing the summer following.

For raspberries are only perennial or durable in root, their stems being but of one year's duration, and consequently the same stems never bear but once, new ones rising from the root and nually, commencing bearers at a year old, and decay the following winter, previously succeeded by plenty of young shoots in the preceding summer for new bearers, as just remarked; so that a general successional supply of every summer's shoots, must be retained in each winter pruning, then retrenching the old decayed stems, or last sum-

mer's bearers.

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The winter pruning may be performed any time, from the fall of the leaf in October or November till March, first prune or break down all the old stems, last summer's bearers, close to the bottom; then of the successional young stems, select from three or four to five or fix of the M 3 strongest

grongest on each mother root or main stool, to remain for bearing the enfuing fummer, and prune out all the rest close to the ground; likewise clear out by the roots all straggling shoots, produced in the intervals between the main plants; and as you proceed in pruning, generally either thorten the remaining felect shoots from about a yard to four feet or more in length, as being long, flender, and infirm, that by pruning off the weak bending part at top, they will effect a more robust, tirin, erect growth, and thereby be better able to support themselves uprightly in summer, when in fruit; or the shoots being either left entire, or but very moderately shortened towards the extremity, or that they are of a weak, feeble, growth, may either tie or plait those of each stool together, by twos or threes, or the tops only of two or more different shoots, tied or plaited together archways; fo as in either method they may fupport one another erectly in fummer, as abovefaid, under the weight of fruit and leaves, and when full of wet in rainy weather, otherwise they are apt to fraggle about in a confused manner; efpecially those retained at their whole length; it is therefore proper either to shorten them in general down below the weak top part; or if left intire, secure them uprightly, as above, and they will bear abundantly, and the fruit ripen early and with a good flavour. .. treathing the co-

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REGISTER OF FRUITS,

COMPRISING

All the Species and Varieties of FRUIT TREES

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Proper to cultivate for Wall Trees, Espaliers, Standards, and Half Standards, according to the General Directions in the foregoing Work.

WITH

The SEASONS in which each VARIETY is in Perfection, either for eating or culinary Purposes.

A LMOND '	TREE proper	to cultivate p	rincipally for
A flandards,	half flandards	and fome occasi	onally as wall
		earlier and large	
		e varieties, viz.	
Common bitter	Sept.	Tender spelled	A SECTION OF THE SECT
Sweet kernelled			L. L. Maria
APRICOT TRE	EE, to cultiva	te chiefly as wall	trees, planted
		enty feet afunder;	
		fionally as stand	
		d fituation; comp	rinng the 101-
lowing varieties			
Early Masculine	June, July.	Transparent	
Turky	· July, Aug.	Dunmore Breda	Aug. Sep.
Orange		Common Breda	
Algier's		Bruffels	a says As commit
		Dialicis	
Roman			
	M	4	N. B. Green

N. B. Green apricots are fit for tarts in the end of April and in May.

APPLE TREE, proper to cultivate principally as full flandards for the general supply, planted from thirty or forty, to fifty or fixty feet distance; also some as half and dwarf standards; and a collection of the finest varieties for cipaliers, planted twenty or twenty-five feet asunder; and occusionally a few of the forward cating forts against walls, such as the Jennetings, Margaret apple, Golden pippin, Golden rennet, &c. to obtain them earlier and richer slavoured;—

comprehends the following varieties: Jenneting or June eating July, Royal Pearmain

Wheeler's Ruffet Aug. Margaret Piles Ruffet Aug. July, Aug. : ep. Coctin Pipy Ruffet Dutch Codlin Aug. Sep. Achlam's Ruffet Leathercoat Riffet Summer Pearmain Holland Piffin Kentift Pippin Siverian Crub Notefuct Sep. Oct. Nov. &c. Barnard's Baking Golden Rennet Aromatic Papin Kitchen Rennet French Pippin Lemon Pippin Netfolk Storing Golden Pippin Margill Kirton Pappin Red Coloil Stone Pippin White Colvil Newtown Pippin Kentift Codlin or Fill Balket Grey Leadington Oct. Nov. Monftrous Rennet Liec. Quince Apple S arlet Pearmain Cat's Head Embroidered A; ple Spill nburg Nov. Dec. to Nontareil Oct. March. &c. Apr. I, Sec. Winter Pearmain Laroman's film Dec. to June. Loan's Pearmain Two Year Apple Royal Ruffet Golden Ruffet

The following principally only for cycler?

Red Streak Everlafting Hanger

Royal Wilding Hereford foire Underleaf

White Sour
Gennet Moyle
Woodcocks
Styre
Black Moor
Woodcocks
Fox Whelps.

N. B. Young green codlins, &c. are fit for tarts, and other kitchen purposes in June and July.

BERBERRY-TREE is cultivated generally for half or dwarf frankards, planted twenty or thirty feet alunder, and confits of the following varieties, viz.

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Common Red fruited Sep. Oct. White Berried Red Berried without Stone CHERRY-TREE, proper to cultivate plentifully rewall trees, both early kinds against fourth walls for forward crops, and a collection of the finest varieties of the succesnonal forrs, on walls of different exposures, to continue a long fuccession, planted eighteen or twenty feet asunder; also a larger supply, as standard trees, in gardens and orchards thirty feet distance; some also as half standards, and some in dwarf standards, for forcing, &c. comprehends the following varieties, viz. Early May May, June. Lukeward May Duke Yellow Spanish Arch Duke June, July. Carnation Aug. White Heart Crown Heart Tradescant's Black Heart Aug. Sep. Amber Heart Morello July, Aug. Ox Heart Black Coroon, or Couronne Aug. Turkey Heart Bigeroon, or Harrison's Heart Wild Small Black Bleeding Heart Wild Small Red Kent fb Wild Large Red CURRANT TREE, to plant commonly as dwarf standard bushes, to surnish the principal supply for general use, planted eight or ten feet distance, both in a row along the borders immediately furrounding the kitchen garden quarters, or in wide crofs rows, from twenty to thirty or forty feet distance, to divide the ground; and in full plantations, in continued rows, fix or eight feet isunder; some atto against Southerly walls, for earlier, larger, and better flavoured fruit; likewife on North walls for late large fruit, comprises the following species and varieties, viz. June to Sep. White Dutch Common Red Large Red Dutch Black Champain Pale Red -CHESNUT TREE, proper only to plant for standards, in orchards, parks, avenues, or any capacious open premifes, at forty, fifty, or fixty feet distance, and confists of the fol-

Manured or large Spanish Sep. Wild small Spanish FIG TREE, to be planted principally for wall trees, again ? South and South West walls; some also in espaliers, and in half and dwa f ftandards, in a warm funny fituation. confifting of the following varieties of the fruit:

Early White July, Aug.	D 37 .1 . C.
Harle Plan	
Burry Bille	Green Naples
Large White Genoa Aug.	Yellow Cafar Aug.
Common Large Blue Purple	Brunswick or Madonna Sep.
Aug. Sep.	Malta
Brown Ischia July, Aug.	
Green Ischia	Black Provence
Black Ischia Aug.	
flandards and half standards or more; and in hedge rows in espaliers, to improve the ripening of the fruit, consists Red Filbert Aug. Sep. White Filbert Sep. Common Hazel Nut Sep. Oct. Large clustered GOOSEBERRY TREE, conbushes, in a single row, also	TTREE, to plant generally as s, fifteen or twenty feet afunder, ; or the filberts also occasionally fize and flavour, and more early ing of the following varieties, viz. Long Hazel Nut Great Cob Nut Cornuted, or borned American Nut Colurna, or Dwarf Byzan- tine Nut nmonly planted as dwarf standard ong the outward borders of the carden, fix, eight, or ten feet
distance, and in wide cross feet asunder, or more, to d compartments that width;	rows, from twenty to 30 or 40 ivide the ground into breaks and also in continued close planta-
distance, and in wide cross feet asunder, or more, to d compartments that width; tions; or a few may be tra	rows, from twenty to 30 or 40 ivide the ground into breaks and also in continued close planta-ined against a South wall to have
distance, and in wide cross feet asunder, or more, to d compartments that width; tions; or a few may be tra early fruit, and consists of	rows, from twenty to 30 or 40 ivide the ground into breaks and also in continued close plantained against a South wall to have the following varieties, viz.
distance, and in wide cross feet asunder, or more, to depend on the compartments that width; tions; or a few may be tracearly fruit, and consists of Early Black June.	rows, from twenty to 30 or 40 ivide the ground into breaks and also in continued close plantained against a South wall to have the following varieties, viz. Yellow Globe
distance, and in wide cross feet asunder, or more, to depend on the compartments that width; tions; or a few may be tracearly fruit, and consists of Early Black Early Red June.	rows, from twenty to 30 or 40 ivide the ground into breaks and also in continued close plantained against a South wall to have the following varieties, viz. Yellow Globe Large Oval Yellow
distance, and in wide cross feet asunder, or more, to depend on the compartments that width; tions; or a few may be tracearly fruit, and consists of Early Black Early Red Early Green	rows, from twenty to 30 or 40 ivide the ground into breaks and also in continued close plantained against a South wall to have the following varieties, viz. Yellow Globe Large Oval Yellow Long Yellow
distance, and in wide cross feet asunder, or more, to depend to make the compartments that width; tions; or a few may be trace early fruit, and consists of the constant of th	rows, from twenty to 30 or 40 ivide the ground into breaks and also in continued close plantained against a South wall to have the following varieties, viz. Yellow Globe Large Oval Yellow Long Yellow Rajpberry
distance, and in wide cross feet asunder, or more, to descriptions; or a few may be tracearly fruit, and consists of Early Black Early Red Early Green Hairy Red June, July, Aug. Smooth Red	rows, from twenty to 30 or 40 ivide the ground into breaks and also in continued close plantained against a South wall to have the following varieties, viz. Yellow Globe Large Oval Yellow Long Yellow Raspberry Damson
distance, and in wide cross feet asunder, or more, to depend on the compartments that width; tions; or a few may be tracearly fruit, and consists of Early Black Early Red Early Green Hairy Red June, July, Aug. Smooth Red Smooth Scarlet	rows, from twenty to 30 or 40 ivide the ground into breaks and also in continued close plantained against a South wall to have the following varieties, viz. Yellow Globe Large Oval Yellow Long Yellow Raspberry Damson Rombullion
distance, and in wide cross feet asunder, or more, to d compartments that width; tions; or a few may be tra early fruit, and consists of Early Black Early Red Early Green Hairy Red June, July, Aug. Smooth Red Smooth Scarlet Large Round Red	rows, from twenty to 30 or 40 ivide the ground into breaks and also in continued close plantained against a South wall to have the following varieties, viz. Yellow Globe Large Oval Yellow Rajpberry Damson Rombullion Large Ironmonger
distance, and in wide cross feet asunder, or more, to d compartments that width; tions; or a few may be tra early fruit, and consists of Early Black Early Red Early Green Hairy Red June, July, Aug. Smooth Red Smooth Scarlet Large Round Red Large Long Red	rows, from twenty to 30 or 40 ivide the ground into breaks and also in continued close plantained against a South wall to have the following varieties, viz. Yellow Globe Large Oval Yellow Raspberry Damson Rombullion Large Ironmonger Great Mogul or Tawney
distance, and in wide cross feet asunder, or more, to d compartments that width; tions; or a few may be tra early fruit, and consists of Early Black Early Red Early Green Hairy Red June, July, Aug. Smooth Red Smooth Scarlet Large Round Red Large Long Red Hairy Green	rows, from twenty to 30 or 40 ivide the ground into breaks and also in continued close plantained against a South wall to have the following varieties, viz. Yellow Globe Large Oval Yellow Raspberry Damson Rombullion Large Ironmonger Great Mogul or Tawney Champaign Red
distance, and in wide cross feet asunder, or more, to d compartments that width; tions; or a few may be tra early fruit, and consists of Early Black Early Red Early Green Hairy Red June, July, Aug. Smooth Red Smooth Scarlet Large Round Red Large Long Red Hairy Green Smooth Green	rows, from twenty to 30 or 40 ivide the ground into breaks and also in continued close plantained against a South wall to have the following varieties, viz. Yellow Globe Large Oval Yellow Raspberry Damson Rombullion Large Ironmonger Great Mozul or Tawney Champaign Red Warrington Red
distance, and in wide cross feet asunder, or more, to d compartments that width; tions; or a few may be tra early fruit, and consists of Early Black Early Red Early Green Hairy Red June, July, Aug. Smooth Red Smooth Scarlet Large Round Red Large Long Red Hairy Green Smooth Green Green Gascoign	rows, from twenty to 30 or 40 ivide the ground into breaks and also in continued close plantained against a South wall to have the following varieties, viz. Yellow Globe Large Oval Yellow Raspberry Damson Rombullion Large Ironmonger Great Mogul or Tawney Champaign Red Warrington Red Association
distance, and in wide cross feet asunder, or more, to d compartments that width; tions; or a few may be tra early fruit, and consists of Early Black Early Red Early Green Hairy Red June, July, Aug. Smooth Red Smooth Scarlet Large Round Red Large Long Red Hairy Green Smooth Green Green Gascoign Green Dorington	rows, from twenty to 30 or 40 ivide the ground into breaks and also in continued close plantained against a South wall to have the following varieties, viz. Yellow Globe Large Oval Yellow Raspberry Damson Rombullion Large Ironmonger Great Mogul or Tawney Champaign Red Warrington Red Asson's Red Green Walnut
distance, and in wide cross feet asunder, or more, to d compartments that width; tions; or a few may be tra early fruit, and consists of Early Black June. Early Red Early Green Hairy Red June, July, Aug. Smooth Red Smooth Scarlet Large Round Red Large Long Red Hairy Green Smooth Green Green Gascoign Green Golobe	rows, from twenty to 30 or 40 ivide the ground into breaks and also in continued close plantained against a South wall to have the following varieties, viz. Yellow Globe Large Oval Yellow Raspberry Damson Rombullion Large Ironmonger Great Mogul or Tawney Champaign Red Warrington Red Asson's Red Green Walnut Golden Drop
distance, and in wide cross feet asunder, or more, to d compartments that width; tions; or a few may be tra early fruit, and consists of Early Black June. Early Red Early Green Hairy Red June, July, Aug. Smooth Red Smooth Scarlet Large Round Red Large Long Red Hairy Green Smooth Green Green Gascoign Green Globe Green Fig	rows, from twenty to 30 or 40 ivide the ground into breaks and also in continued close plantained against a South wall to have the following varieties, viz. Yellow Globe Large Oval Yellow Raspberry Damson Rombullion Large Ironmonger Great Mogul or Tawney Champaign Red Warrington Red Asson's Red Green Walnut Golden Drop Large Deep Red Garnet
distance, and in wide cross feet asunder, or more, to d compartments that width; tions; or a few may be tra early fruit, and consists of Early Black June. Early Red Early Green Hairy Red June, July, Aug. Smooth Red Smooth Scarlet Large Round Red Large Long Red Hairy Green Smooth Green Green Gascoign Green Golbe Green Fig I arge White Dutch July, Aug.	rows, from twenty to 30 or 40 ivide the ground into breaks and also in continued close plantained against a South wall to have the following varieties, viz. Yellow Globe Large Oval Yellow Raspberry Damson Rombullion Large Ironmonger Great Mogul or Tawney Champaign Red Warrington Red Asson's Red Green Walnut Golden Drop Large Deep Red Garnet Green Gage
distance, and in wide cross feet asunder, or more, to d compartments that width; tions; or a few may be tra early fruit, and consists of Early Black June. Early Red Early Green Hairy Red June, July, Aug. Smooth Red Smooth Scarlet Large Round Red Large Long Red Hairy Green Smooth Green Green Gascoign Green Globe Green Fig I arge White Dutch July, Aug. White Veired	rows, from twenty to 30 or 40 ivide the ground into breaks and also in continued close plantained against a South wall to have the following varieties, viz. Yellow Globe Large Oval Yellow Raspberry Damson Rombullion Large Ironmonger Great Mogul or Tawney Champaign Red Warrington Red Asson's Red Green Walnut Golden Drop Large Deep Red Garnet Green Gage Green Sugar
distance, and in wide cross feet asunder, or more, to d compartments that width; tions; or a few may be tra early fruit, and consists of Early Black June. Early Red Early Green Hairy Red June, July, Aug. Smooth Red Smooth Scarlet Large Round Red Large Long Red Hairy Green Smooth Green Green Gascoign Green Gobe Green Fig I arge White Dutch July, Aug. White Veired White Crystal	rows, from twenty to 30 or 40 ivide the ground into breaks and also in continued close plantained against a South wall to have the following varieties, viz. Yellow Globe Large Oval Yellow Raspberry Damson Rombullion Large Ironmonger Great Mogul or Tawney Champaign Red Warrington Red Asson's Red Green Walnut Golden Drop Large Deep Red Garnet Green Gage Green Sugar Richmond Red
distance, and in wide cross feet asunder, or more, to d compartments that width; tions; or a few may be tra early fruit, and consists of Early Black June. Early Red Early Green Hairy Red June, July, Aug. Smooth Red Smooth Scarlet Large Round Red Large Long Red Hairy Green Smooth Green Green Gascoign Green Globe Green Fig I arge White Dutch July, Aug. White Veired White Crystal White Glote	rows, from twenty to 30 or 40 ivide the ground into breaks and also in continued close plantained against a South wall to have the following varieties, viz. Yellow Globe Large Oval Yellow Raspberry Damson Rombullion Large Ironmonger Great Mogul or Tawney Champaign Red Warrington Red Asson's Red Green Walnut Golden Drop Large Deep Red Garnet Green Gage Green Sugar Richmond Red Cherry Berried
distance, and in wide cross feet asunder, or more, to d compartments that width; tions; or a few may be tra early fruit, and consists of Early Black June. Early Red Early Green Hairy Red June, July, Aug. Smooth Red Smooth Scarlet Large Round Red Large Long Red Hairy Green Smooth Green Green Gascoign Green Globe Green Fig I arge White Dutch July, Aug. White Veired White Crystal	rows, from twenty to 30 or 40 ivide the ground into breaks and also in continued close plantained against a South wall to have the following varieties, viz. Yellow Globe Large Oval Yellow Raspberry Damson Rombullion Large Ironmonger Great Mogul or Tawney Champaign Red Warrington Red Asson's Red Green Walnut Golden Drop Large Deep Red Garnet Green Gage Green Sugar Richmond Red

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KEGISIEK OF LE	0 1 1 0. 239
-with many other intermediate varie	ties of blacks, reds,
greens, whites, yellows, &cc.	
N. B. Gooseberries are fit for tarts in Apr	il, May, and June,
and ripen for eating in June, July, an	d August, and may
and ripen for eating in June, July, an be continued till September; provided	fome late ripe forts
are screened from the fun, birds, &c.	with fome garden
mats.	
GRAPE VINE, to be planted principally	againft South walls
fome also in espaliers, in a sunny warm	Stuation: and like-
Tome and in cipaliers, in a fully warm	intuation, and in a
wife some of the forwarder forts to plan	it in vineyards, in a
dry warm foil, full to the fun, to be tr	
and confift of the following varieties, v	Z. A. Carrier LANCE
Early, or July Grape July. Red Ham	burgh
White Sweet Water Aug. Blue Ham	iburgh .
Black Sweet Water Lombardy	Santan + - Transaction
Royal Muscadine - Cheffelas	THE PARTY OF THE P
White Mufcadine - Damfon	14 * 20 10 1 24 A 6
Black Muscadine - Black Con	inch
Black Clufter Sept. Black Bu	
Black Chapter Sept. Black Du	
White Frontignac - St. Peter	s Sep. Oct.
Black Frontignac - Claret	
Red or Grifly Frontignac - Parfley le	eafed
Red Alexandrian Muscat - Syrian	
White Alexandrian Muscat - Tokay	
Black Hamburgh - Raifin	Oet.
White Hamburgh - Rhenish	PROMINGA OF BUILDING
MEDLAR TREE, commonly trained	for standards and half
flandards, to plant in the garden and or	chard twenty or thirty
feet afunder; and also in espaliers t	o improve the fruit
which confifts of the following varieties	o miprove the many
Targe Deach Of New sill Waster	Sp VIZ.
Large Dutch Oct. Nov. till Nottingh	am Smaller
Spring, &c. Pear She	apea Italian
MULBERRY TREE, trained principall	y for itandards, planted
in a funny fituation, thirty or forty fe	et alunder; and occa-
fionally as wall and espalier trees, to	obtain earlier, larger,
and richer flavoured berries, which are	of the following vari-
deties, viz.	
Common Black Aug. Sep. Red	· 大大學等一次,所屬在30%。
Wbite	
N. B. The common black mulberry is	the existing fort to
plant for the general fupply, and of wi	high a formation in C. C.
ficient for minute wife a alfo along forms	inch a few trees is fur-
ficient for private use; also plant some	of the others for va-
riety.	St. AL CONTRACT
NECTARINE TREE, always to be	trained for wall trees,
and planted chiefly against South wal	ls, eighteen feet afun-
der; and some also on East and We	of walls, comprehends
the following varieties, viz.	

Early .

· 图1000 · 1000	the same of the sa
Early Fairchilds July, Aug.	New White
Early Violet	Red Roman Sept.
Elrouge Aug.	Golden
Newington Aug. Sep.	Temple .
Cleremont	Murray
Scarlet	Taguney
Brugnon or Italian	Peterborongh Oct,
	ipally for wall trees, and planted
against South walls, at ei	ghteen or twenty feet afunder;
some also on West and East	t walls, the same distance; also
fome dwarf standards in pots	for forcing, &c. comprises the
following varieties, viz.	
Early White Nutmeg July,	Royal George,
Aug.	Bourdi &
Early Red Nutmeg	Reffana
Ann Aug. Sep.	Swalch
Small Mignon	Belle de Vitri
White Magdalen -	Double Montagne
Red Mandales -	Viulet Tribung
Early Purple	Nivette
Italian	Portugal
Large French Mignon -	Yellow Admirable
Belle Chevreuse	Scarlet Muscat
Early Newington	
Montauban	Monfrous Pavie of Pon-
Yellow Amberge	Particular Annual Control of the Con
Nobleffe	Cal
Chancellor	Catharine MA MAN
	Bloody 11 27 1 22 1 22 1
Old Newington Sept.	Perifque
Admirable	Lase Admirable
Galland, or Belle Garde -	Cambray
Venus Breaß	Narbonne -
Royal	Dwarf Orleans Aug. Sep.
Rambouillet	Dwarf Maita
Late Purple	rively od. Bare to Allendan
PEAR TREE, trained both i	or standards in the garden and
orchard, planted thirty or	forty feet distance; also some
	ection of the choicer forts for
wall trees, against Last and	West walls, and some on South
walls, to obtain earlier fruit	, planted from twenty to thirty
feet alunder; allo a good col	lection of the capital kinds in
	istance;—comprehends the fol-
lowing varieties, viz.	a grant and the
	Green Chiffel, or Citron des
Primitive July, Aug.	Carmes and Landy being
and the medical search	I las cla band has Red

Little William Stranger	William B. State of the State o
Red Mufcadelle Aug.	White Beurre
Avorat, or August Muscat -	Red Beurre
Jargonelle, so called; but	Meffire Jean, commonly salled
more properly Cuife Madum	Monsieur John
(Lady's Thigh)	Beurre Bergamot
Cuiffe Madam, fo called; but	French Bergamot
more properly fargonelle -	Grey Good Wife
more properly Jargonelle - Windfor Pear, a variety of	Poire Pendar, or Knaves -
the Cuiffe Madam	Chat Brule, or Burnt Cat-
Great Blanquette Aug.	Green Sugar
	Rov feline -
Little Blanquette Cassolette	Crefanne, or Grefan Oct. Dec.
Orange Muscat	Ian.
Red Orange	Dauphine
Early Ruffelete	Virgoleuse Nov. to Jan.
Perfumed -	Colmar
Pouchet	St. Germain Dec. Jan. Feb.
Muft Rolin Aug. Sep.	Spanish Bon Chretien -
Musk Drone	Winter Bon Chretien Jan. Feb.
Onion -	to May.
	Chaumontelle Dec. to March.
	Winter verte Longue Dec. Jan.
Summer Bon Chretien	Winter Beurre
Orange Summer Bergamot	
Hamden's Bergamot	Winter Bergamot Nov. to
Rose Water -	Jan.
Salviati	Martin Sec
Autumn Bergamot -	St. Martial Jan. or Feb. to
Scotch Bergamot -	May
Crawford	Germain Muscat
Lemon	Martin Sire Dec. Jan.
Prince	Good Lervis
Green Musk	Ambrette
Befideri	St. Auftin
Long-stalked Blanquette -	Eafter Bergamot Jan. Feb to
Pear Piper	April or May.
Red Admirable	Eafter St. Germain
St. James's	Winter Ruffelet Jan. Feb.
Great Ruffelete	Holland Bergamot Jan. to Ap.
Auchin	Epint d'Hyver, or Winter
Swifs Bergamot Sep. Oct.	Thorn Dec. to March.
Great Mouthwater	Double Fleur Jan. to May.
Swan Egg Oct. Nov.	
Autumn verte Longue -	
	main Nov. to Mays
Brown Beurre	2 2 2
	Pound

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Pound Pear or black Pear of	Cadillac Nov. Dec. to April.
Worcefter Nov. to May, or	Sanguinole, or Blood Pear-
	Paftorelle
PLUM TREE, to be traine	d both for flandards and half
flandards, planted twenty-fiv	e, or thirty feet distance, and
	as wall trees, and a few against
South walls for early fruit.	planted twenty feet afunder;
others on West and East wa	lls; and fome on North walls,
for late plums, planted at the	e fame diffance; and confifts of
the following varieties:	
Early White, or Primordian	Roche Courbon
July.	Blue Gage, or Azure Hatim
Damas Noir, Black Damask,	A: 15 15 15 15 15 15 15 15 15 15 15 15 15
or Morocco Plum	Queen Claude Sept.
Pracoce de Tours July. Aug.	Little Queen Claude -
Little Black Damask Aug.	Green Gage Aug. Sept.
Amber	Red Imperial Sept.
Great Blue Damask	Imperatrice, or Empress Sep.
Early Tours	Oct.
Orleans Aug. Sep.	Tours Damask Sept.
White Perdrigon -	Red Queen Mother -
Blue Perdrigon -	White Queen Mother -
Black Perdrigon	White Matchless
Drap d'Or, or Cloth of Gold	Violet
THE PERSON NAMED AND ADDRESS OF THE PERSON NAMED AND ADDRESS O	Maitre Claude
Chefton	Red Spanish Damask -
Myrobalan	Damson, or Damascene Sept.
Semiana	O&.
Diapre	York Wine Sour, or Rotheram
White Bonum Magnum -	Oct,
Red Bonum Magnum -	Cherry Plum
Brignole	Muscle Plum Sept. Oct.
Wentworth -	St. Julian
Royal	Wheaten Aug. Sept.
Apricot	Black Bullace Oct.
Mirabelle	White Bullace
St. Catharine	Sloe, or Black Thorn, Wild
Little Wbite Damafcene -	Plum Od. Nov.
Fotberingbam	2.2.7.00
	ing commonly as standards and
half flandards, and planted	in any moist situation, twenty
or thirty feet afunder: or fo	me occasionally in espatiers, for
variety, confishing of the fo	llowing forts, viz.
Apple Shaped Sep. Oct.	Eatable, Raw
Pear Shaped -	Cottony
Portugal	**************************************
	RASP-
	• HOL

RASPBERRY PLANT, to be planted in rows in any open funny fituation, a yard afunder in the row, and the rows four feet and a half distance; or occasionally plant fome against walls, and trained thereto for early and large fruit; also in espaliers, ten feet asunder, confests of the following: Twice bearing July, Aug. July, Sept. Red Smooth Stalked

July, Aug. SERVICE TREE, to be trained commonly for itandards or half standards, and planted in the garden or orchard, twentyfive or thirty feet distance, comprising the following forts:

Sept. Oct. Wild Service berry Oct. Nov. Pear Shaped Apple Shaped Azarde, Wild Service WALNUT TREE, to be trained in full standards, and planted in any open or capacious premises, fifty or fixty feet distance in the rows, or to form avenues, or planted round next the boundaries of orchards, or in parks, &c. confifting

of the following forts:

Common Round nutted Oval nutted

Large nutted Largest French
Double

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Tender shelled

Hard shelled

N. B. Young green walnuts for pickling, are fit to gather for the beginning of August; and the that purpose in July and the beginning of August; and the full grown fruit ripen in the end of September, and in October.

Fruit trees of all the foregoing species, and their respective varieties, are cultivated for fale in the greatest perfection in all the public nursery gardens, where they may be obtained in their different orders of training, and in different stages of growth, as may be required; either in their infant state, with heads only of a year or two old from the grafting, budding, or first training, &c or of a more advanced and mature growth, having formed handsome branchy heads, arrived to a bearing state; or may have such that are called trained trees, having been previously planted against walls, pales, or reed hedges, &c. in rhe nursery, and their branches regularly trained thereto in the wa'l tree order; also for espaliers, trained to stakes in the nursery lines ; and being thus trained two, three, or feveral years, till they arrive to a good bearing order, then transplanted into the garden against walls and espaliers, they at

form handsome bearing trees, each covering a large space of walling, &c and will soon bear plenty of fruit, some probably the same year, in their proper season; and may also have standard trees, with good branchy heads, arrived to a bearing state.

They are fold at from one or two shillings per tree, of one or two years old; and trained trees, from half a crown, to five, ten, or fifteen shillings, &c. according to the kinds, age,

and goodness of growth.

Or trees of all the forts may be easily raised by different methods in the different forts; such as by seed, suckers, graft-

in;, budding, layers, cuttings, &c. viz.

By feed, commonly raife walnuts, chefnuts, hazel nuts, and also occasionally, wild cherry, filberts, berberry, mulberry, elder-berry, wild-fervice, sweet-service, azarole-service, common bitter almond, bullace plum, sloe plum or sloe; likewise sometimes goosberries to gain new varieties; as also any other fruit trees, to try for new varieties of the respective species, as all the different varieties of fruits were accidentally obtained from seed.

By fuckers, may raise or propagate figs, filberts, hazel nuts, goodberries, currants, raspberries, codlins, quinces, herber-

ries, plums, bullaces, floes, azarole, &c.

By grafting, may propagate true in their kinds, apples, pears, cherries, plums, medlars, quinces, and filberts; also occafionally wild fervices, fweet fervice, azarole, mulberry,
berberry, bullace, damfon, and almost any other garden
fruit trees, for variety, experiment or curiofity; except
figs and vines, which do not succeed by that method of propagation.

By budding. commonly propagate peaches, nectarines, and apricots; also occasionally plums, cherries, pears; likewise for variety, may bud apples, quinces, medlars, and any

other, as observed in grafting.

By layers, may propagate figs, filberts, vines, mulberries, any fort of hazel nuts; also gootberries, currants, codlins,

quinces, plums, medlars, services, berberries.

B. cuttings of the young shoots of a year old, may propagate figs, vines, currants, gosberries, mulberry, elder-berry, codlins, quinces.

FINIS.